The UNESCO Courier
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CARTHAGE MUST NOT BE DESTROYED

7

Photo © Roger Viollet - National Palace Museum, Taipei

Celestial musicians

TREASURES
OF
WORLD ART

50 *China*

Detail of a painting from one of the 469 Buddhist cave chapels hewn from the rock at Tun-huang in the Gobi Desert of Central Asia. A composition dating from the 7th-8th century T'ang period in China, it depicts a group of celestial musicians. "The overwhelming impression of T'ang painting at Tun-huang," writes Anil de Silva in *Chinese Landscape Painting in the Caves of Tun-huang* (Methuen, London; Crown Publishers, New York, 1967), "is its strength and powerful vitality...In these murals the brush strokes seem charged with a dynamic life of their own." Founded in the 4th century A.D., the Tun-huang cave complex—at one time numbering over a thousand grottoes—became a centre of Buddhist learning in China and the repository of an unbroken tradition of 1,500 years of Chinese painting. Detail is from a work in the National Palace Museum, Taipei (Republic of China).

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Cover

This little masterpiece of Punic art graces the handle of a bronze ewer unearthed from a Carthaginian tomb. The object is believed to date from the 5th or 6th century B.C. when Carthage was at the height of its greatness and glory.

Bardo Museum, Tunis
Photo Luc Joubert © Archaeologia Viva

Photo © Roger Viollet - National Palace Museum, Taipei

If there is one symbol that typifies Carthage, it is certainly the so-called "sign of Tanit", which has received a host of interpretations down the centuries. Originally, the sign of Tanit was a trapezium crowned by a horizontal line with a circle above it. Later the trapezium became a simple isosceles triangle. One variant is shown on right. A crescent moon and sun were often depicted above it. Tanit was the female consort of Ba'al Hammon, a leading deity of ancient Carthage. She was the goddess of fertility and protector of the dead. She may also be symbolized on miniature obelisk (centre photo) of 4th century B.C. Breasts symbolizing fertility surmount lunar and solar emblems. Other Tanit motifs are published on page 40. Right, "nezem" (nose-ring) terracotta mask used in religious ceremonies (6th-7th century B.C.). Eye pupils and lashes were painted black and the face bright red. In ancient Carthage, men as well as women wore nose-rings. Other masks with grimacing demon faces were worn by cult dancers (see colour photo page 24).

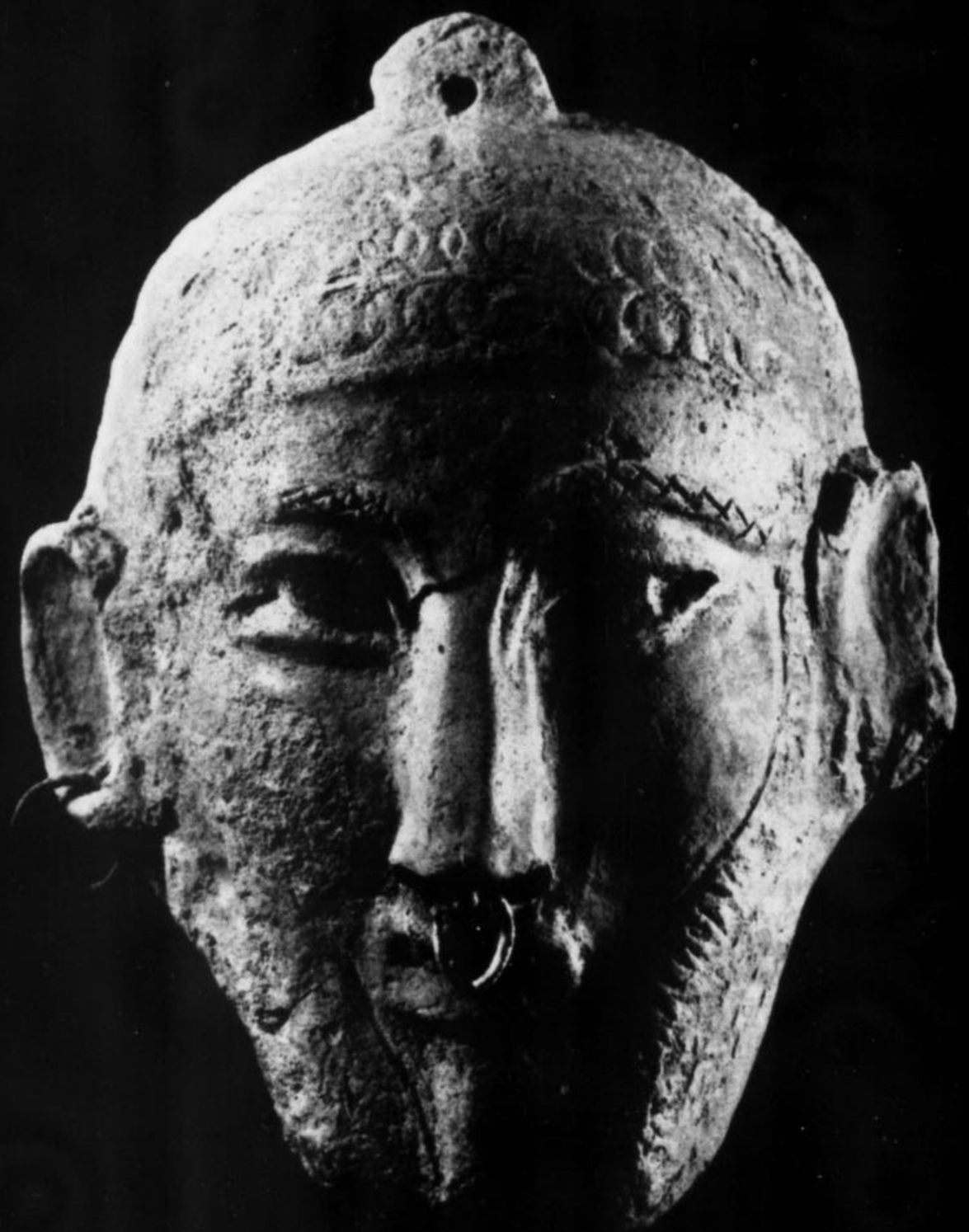
Photo Georges Viollon © Rapho, Paris

CARTHAGE MUST NOT BE DESTROYED

by Jellal El Kafi

Two thousand years ago the Roman Senate rang with Marcus Porcius Cato's fanatical cry " Delenda est Carthago " (Carthage must be destroyed). Not long thereafter the Roman legions sacked the Punic capital and razed it to the ground. Today, on the shores of the Mediterranean, only a few miles from Tunis, the remains of ancient Carthage and the lovely Medina of Tunis itself are threatened by a new menace : submersion and destruction in a sea of urban concrete. Unesco and the Tunisian Government are facing the challenge and have just embarked on an ambitious programme for the safeguard and development of the Carthage-Tunis region. It is to the story of Carthage's glorious past and the cultural legacy that the Medina represents that this issue of the " Unesco Courier " is devoted.

JELLAL EL KAFI *of Tunisia is co-director of the project for the development of the Tunis-Carthage region (Unesco and U.N. Development Programme—Special Fund). A specialist in urban planning, he is director of the Association for the Protection of the Tunis Medina, and has written numerous studies and articles on the problems involved in preserving the Medina.*



Photos Luc Joubert © Archaeologia Viva, Paris

IN the history of Tunisia—an ancient crossroads of civilizations in the Mediterranean world—Carthage is one of the peaks rising from a cultural landscape that stretches back over several thousand years. Yet we who live in Carthage have seen the start and now watch the advance of a process that threatens to destroy the city and its site, so that one day Carthage may be no more than a memory.

The plight of Carthage is not unique. In all parts of the world, dozens of ancient sites and cities seem doomed to disappear. These irreplaceable treasures of man's cultural heritage demand to be reprieved, to be saved from obliteration by the tentacular spread of cities and industries.

This is something that all of us must have realized, whether we have studied the problems of urban development or whether one day we simply noticed that the trees in a familiar square had been chopped down to make way for a car park.

The damage we are doing to our environment has become a world-wide issue. Each day we read of new acts of violence against nature, and everyone who witnesses this continuing process of destruction, whether scientist or layman, feels a sense of personal injury and loss from these depredations.

Yet the defacement of sites of natural beauty and the blotting out of historical and archaeological remains seems to go on unabated, until public opinion finally comes to accept the process of deterioration that accompanies the spread of cities. This passive resignation leads us to hand over archaeological sites to be exploited by the kind of uncontrolled urban development that quickly covers them with a chaotic sprawl of houses and hotels.

The effects of this destruction are everywhere apparent, yet public opinion seems to assent to this urban and industrial aggression, which ends by radically modifying man's relationship to his natural environment and effacing the vestiges of his historic past.

Today, the city of Carthage and the surrounding area is reduced to little more than a handful of scattered ruins, fast disappearing, and a countryside marred by unattractive buildings. The ancient Punic ports still reflect the grandeur of the Carthage of old, but future generations may find no trace of the Punic and Roman towns, buried as they seem likely to be under the bricks and mortar of a modern housing complex.

Not long ago, when the temples of Abu Simbel in Nubia were threatened by the waters of the Nile, Unesco's Director-General, René Maheu, declared that it was inconceivable that the men of today should fail to preserve, for themselves and for posterity, the heritage handed down by their ancestors. Unesco launched an international campaign and Abu Simbel was saved.

But what of Carthage, another treasure of man's cultural heritage, whose importance in the history of Tunis and to our knowledge of the early Mediterranean world is recalled in this issue of the "Unesco Courier"?

And how is Carthage to be saved? This is a question which the Tunisian government and Unesco, co-operating in the Tunis-Carthage project, are trying to answer. They have begun by systematically surveying the present state of sites and monuments prior to drawing up a plan of restoration and conservation.

In cultural rescue operations, whether the site is Venice threatened by floodwaters or the Tunis Medina faced

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From Tunis to the walls of Carthage —the spectrum of concrete

with the pressures of urban expansion, the basic problems are identical, and the methods and scope of conservation vary only in relation to the resources available.

Damage to the environment seems most often to result from rapid growth which state or local authorities have failed to meet with a coherent policy of urban planning. Whatever the site, the same problems arise: a population explosion that sets off unchecked urban expansion; the chaotic and uncontrolled use of land by industry; the relentless spread of road networks.

There are, of course, other problems more specific to buildings and monuments such as stone decay and diseases of wood aggravated by the effects of time and weather. But stone can better withstand the aging process than the lack of planning for its care, or even worse, laws that proscribe any kind of development at all, good or bad.

Carthage is a typical example. Photographs taken at the beginning of the century show the Punic ports in unspoilt surroundings flanked by protective ramparts of land. Today, a haphazard sprawl of roads and houses encircles the two basins which form a site that any promoter or hotel constructor would be eager to convert into a tourist centre.

It would be absurd to reject outright any form of tourist development. But it would be tragic if the remarkable complex formed by the Punic ports should end up as a site for tourist restaurants and bungalows, especially when due to lack of funds, archaeological research on the site is nowhere near complete.

The remarkable remains of a civilization which left its imprint on the soil of Tunisia thousands of years ago are too important to be merely recorded in books. They should be studied scientifically and above all protected so that future generations may continue the research. For this, a coherent programme of archaelogical studies is needed together with regulations for the work of excavation and an adequate budget.

But when it comes to deciding which research methods to use we face a serious problem. Isolated research, undertaken without a methodical plan of campaign, has often led to amateurish efforts and produced pitiful results. It is better for a site to remain protected by its covering of earth than for it to undergo piecemeal dissection.

We have the example of Punic and Roman objects found on sites in Tunisia. Some, although widely dispersed, are safely housed in local museums or

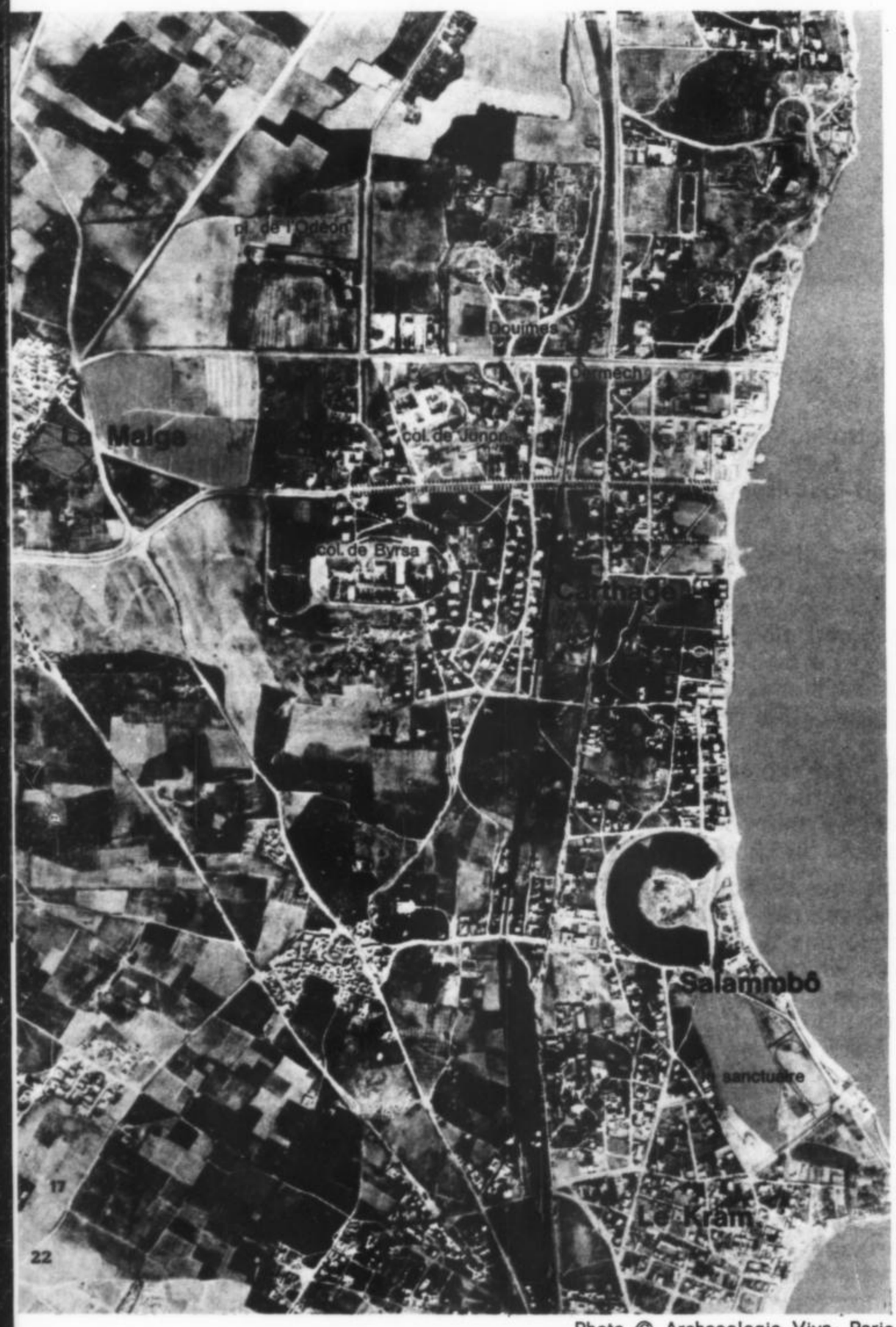

Photo © Archaeologia Viva, Paris

Photo © André Martin, Paris

Photo © Roger Viollet, Paris

Right, ruined splendours of Roman Carthage. These columns, carvings and truncated walls are the remains of a palatial villa built at the start of the 3rd century A.D. in the colony founded by Rome after its destruction of Carthage in 146 B.C.

in those of Europe and elsewhere. But others have passed into the hands of antique dealers or, worse still, of traders to whom the tourist, as if guided by some sixth sense, goes to buy his "souvenirs".

In this way, objects of archaeological interest have acquired a commercial value to the detriment of their importance as sources for historic and ethnographic studies. All along the Tunisian coast, punic stelae, tear-bottles and Roman pottery can be had for the asking—at a price.

Here we see the failure of an out-moded archaeological method that has all the appearance of a treasure hunt, concerned primarily with the search for artefacts and often far removed from any real interest in the ancient city itself. Once the thesis has been published and the artefacts are stored in a museum, what does it matter what happens to the excavation site, left unprotected and in disorder?

Despoiled of its treasures and abandoned, Carthage is finding it hard to resist the pressures of urban development. The conflict between the needs of the archaeological zone and those of urban space is everywhere apparent. Not a month goes by without the foundations of a new building being laid on an archaeological site that is of essential interest to the study of the ancient city.

By the early 1930s, Tunis was beginning to break out from its city boundaries. The spread to the coastal area began, soon to be followed by encroachment on the site of Carthage itself which became dotted with villas and bungalows.

It is now clear that the problem of urban development is even more acute than that of the archaeological sites, although the two are closely linked, and that if the Tunis-Carthage project is to work effectively, the deterioration throughout the area has to be studied and priorities established.

Unless a plan of integrated development is adopted, the present encroachment on archaeological, historic and natural sites will result in their total destruction by about 1985. Carthage, the Tunis Medina, the picturesque area of Sidi bou Said and the hills, dunes and olive groves of the Tunisian coastline will have been irreparably spoilt by an urban sprawl sparked off by population pressure.

By 1985, the population of Tunis will number between 1,600,000 and 2,000,000—at least twice the present figure. By that time, the coastal area will have become a landscape of brick and concrete in the midst of which the archaeological site will occupy a tiny place devoid of all interest. In that case it would perhaps be better if it disappeared completely.

Moreover, the disappearance of the archaeological zone would have a serious effect on the Tunis area. Centralization would increase to a danger point whilst the surrounding country would be defaced by haphazard spread of new suburbs, and the exhausting daily round of commuting would become part of the Tunis way of life.

An archaeological zone or green space would do much to maintain an equilibrium in the city and in its environment. The dangers of the megalopolis and the monotony of endless rows of concrete blocks have been described too often by town planners for us to be excused for failing to heed their warning. Open spaces and archaeological sites should be preserved and harmoniously integrated with the Tunis urban complex, so as to bring the values of nature and history into its daily life.

Integration of the archaeological zone into the urban area may, at first sight, seem of secondary importance to the urgent task of economic development. But the zone constitutes a powerful tourist attraction and its improvement can be fully justified as a factor in economic development as well as on purely cultural grounds.

Indeed, abandon of the Carthage site would have the effect of hampering economic development, since tourism, which brings the country much needed foreign currency, would in all probability decline.

Within this framework of integrated development, the Tunis-Carthage project proposes a plan for the organi-

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Master shipbuilders, the Carthaginians were no less skilful port engineers. To house their vast fleet of merchant ships and the galleys that protected them, they built two ports at Carthage. Their military port still retains its original circular shape (photo left). Two hundred and twenty ships could anchor in its waters. Connecting it to the outer commercial port was a narrow channel that could be blocked by massive chains when danger threatened. From the island at the centre, the Carthaginian Admiralty passed its orders to the ships by trumpet calls or signals flashed by mirrors reflecting the sun's rays. Today, houses of the small town of Le Kram cover the peninsula that runs southwards away from the port. At top right is the Tunis Lake, cut off from the open sea by a long causeway that stretches to Tunis (just out of sight on top right). Air photo (far left) shows entire Carthage area almost completely covered with modern buildings. Lagoon below circular port at Salammbo is presumed site of former commercial port. Left of place name "Carthage" is the Hill of Byrsa, the acropolis of ancient Carthage, on which the city was born.

The first coins made in Carthage were struck early in the 4th century B.C. when a mint was set up on Byrsa Hill. Left, a war horse, the martial emblem of Carthage on a 3rd century B.C. coin. Above the horse is a solar disc with two stylized representations of the sacred asp. Known as a uraeus, it often served ancient rulers as a symbol of sovereignty.

The great Punic maritime traditions live on in this fragment of a mosaic (right) decorating a rainwater cistern in a 3rd century Roman villa not far from Tunis. As two fishermen draw in their net, a third hurls a spear at an octopus. Mosaic and coin (left) are both from the Bardo Museum, Tunis.

Photo © Pietro Mele, Paris

CARTHAGE MUST NOT BE DESTROYED *(Continued)*

zation of the area which takes into account:

- The archaeological and historic zones (Carthage and the Tunis Medina),
- The hotel development required for the promotion of cultural tourism,
- Population pressure and the irreversible process of rapid urban expansion.

These three factors are inseparable; it would be meaningless to tackle one without the others. If we accept that saturation of the site is likely to be reached in 1985, we might just as well plan for systematically structured urban unit developments which would include archaeological sites and open spaces, both as an aid to economic development and to give balance to the area.

The Tunis-Carthage project's forecast of population distribution in 1985 is:

- Tunis—1,300,000 inhabitants,
- Northern coastal area—220,000,
- Southern coastal area—170,000,

—a total capacity of 1,690,000 inhabitants in 1985.

In the Tunis urban unit, a policy of re-vitalization would restore to the Medina its rightful role as city centre and focus of activity. The division between the "colonial town" and the "Arab quarter" would disappear and the spread of "shanty-town" dwellings would be halted and reversed.

In the northern coastal area, the development of the archaeological zone accompanied by controlled and organized urban growth, could well have favourable economic results provided that the archaeological remains can be combined with a historical evocation of Carthage in such a way as to present a coherent whole.

The southern coastal urban area, adjoining the industrial zone, would stretch out towards the magnificent beaches of Cap Bon, linking Tunis with the vast tourist facilities the country possesses.

In contrast to these natural tourist attractions, Tunis itself would offer the visitor cultural interest in an urban setting.

Cultural resources can be looked upon as consumer goods or as raw materials whose development justifies capital investment. Profits accrue both directly, in the tourist economy sector, and indirectly, in the side effects on urban development.

Thus although the re-establishment of the Tunis-Carthage heritage of monuments is intended primarily to encourage economic development, this approach is the only one which can provide an answer to the archaeological problem of saving Carthage and ensuring continued research on the Punic and Roman cities.

Even now measures can be taken to protect the archaeological zone while waiting for more extensive research to begin. Some sites can be classified as temporarily or permanently barred to builders and others listed as requiring restrictive development. As soon as funds become available, a systematic, overall plan of research relating to the various periods of the city's history would determine which sites were of real archaeological value and thus allow the others to be released for building.

This brief survey gives some idea of the task facing the international team of experts and their Tunisian counterparts who are attempting to analyse the process of deterioration of the archaeological site, Carthage, and the historic town, the Tunis Medina.

Their proposals for integrated development can, however, only become a reality when an international campaign has provided the funds required for the work of excavation, conservation and development.

Unesco's co-operation, at the request of the Tunisian Government, will be a decisive factor in the rescue of Carthage. ■

Grandeur & decline of the Punic city-state

by Hedi Slim

Photo © Roger Viollet, Paris

THE rise of Carthage as a maritime power is the most illustrious episode of Phoenicia's imperial venture in the western Mediterranean.

By the end of the second millenium B.C., the Phoenicians had already won a place in history by their invention of the alphabet and their vigorous promotion of navigation and international trade. They then began to explore the North African coastline, and pressed on to the heart of the legendary realm of Tartessos, of fabulous wealth, in southern Spain. Before long the route followed by these intrepid explorers was studded with trading posts.

Utica was the first Phoenician settlement in Tunisia, founded in 1101 B.C.: Carthage came into being three centuries later, in 814 B.C. Its royal origin, the events that led to its creation, and the very meaning of its name (new town or capital) all seemed to point towards a glorious future.

For many years, it is true, Carthage acknowledged the prior claims of Tyre and Utica, only to supplant them when the time was ripe. It owed its ascendancy to its own vigorous expansion, aided by the disasters that rocked Phoenicia and the East.

Tyre eluded the grasp of Babylon only to fall under the sway of Persia, and Carthage then took the place of its ill-fated parent city as capital of the empire.

Carthage occupied a privileged situation at the heart of the Mediterranean world, and had inherited the Tyrian sea-going and trading traditions, backed by a vast empire with a chain of trading posts. It was thus able to

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A flourishing trade across the Mediterranean

give fresh impetus to Phoenician expansion in the western Mediterranean, and itself evolved into a formidable power able to play a leading part on the political stage, and even to influence the destiny of the world.

Carthage's first concern was to organize the considerable empire bequeathed to it. It seems to have had no great difficulty in getting its leadership accepted by the various Phoenician cities of the West, which agreed to surrender a large part of their sovereignty in return for the capital's vital protection from the avaricious designs of its many Mediterranean rivals.

The second step was to enlarge the bounds of the empire, after consolidating its position in Sicily.

From Motya, the Carthaginian forces moved north under the command of General Malchus to subdue the local population of Mount Eryx and occupy the sites of Segesta, Palermo and Solonto. They reached Himera and Selinus, on the border of Greek Sicily.

Carthage then turned its attention to Sardinia, where it obtained a foothold in the 6th century B.C.; the cities of Nora Tharros and Caralis formed the bridgeheads for a victorious expedition inland. The island still retains many vestiges of the Punic civilization which flourished for centuries on its soil.

About the same period, Carthage set about consolidating its position farther to the West. Two Phoenician cities already existed at Lixus in Morocco and Gadès (now Cadiz) in Spain; a new colony was established at Ibiza in the Balearics.

Thus, towards the end of the 6th century B.C., Carthage had suzerainty over all the Phoenician colonies in North Africa, from Tripolitania to the Atlantic, and over sizeable areas of Sicily, Sardinia, Spain and the Balearic Isles.

Thanks to its empire, Carthage became the wealthiest city-state in the western Mediterranean. A treaty of alliance with the Etruscans, then a powerful nation, consolidated its position. When their common enemy the Greeks came on the scene, the ties between the two allies were further strengthened.

The Phocaeans, founders of Massalia (Marseilles) about 600 B.C., had soon become a force to be reckoned with; they had won the goodwill of the renowned King of Tartessos, lord of the silver mines, and contemplated forming another Phocaean colony in that part of Spain (now Andalusia); they had also obtained a foothold in Corsica, and thus constituted a serious threat to Carthage.

A combined Punic and Etruscan fleet succeeded in halting the Phocaean advance after the Battle of Alalia (Aleria in Corsica) in 535 B.C. The Greeks were expelled from Corsica and Spain; only the Gulf of Lions remained in their possession. From that time onwards, Carthaginians and Etruscans were constantly bound by trade and military treaties to protect their common interests.

However, the subsequent decline of Etruria induced Carthage to seek a closer alliance with Rome, and three treaties were negotiated, the first dating back to 509 B.C. Yet even while the two powers were ostensibly allies, Carthage distrusted any attempt by Rome, in any form, to penetrate its spheres of influence. Coming events cast their shadows before, and it is not surprising that later on, the two powers were to confront each other in what was perhaps the most ruthless and bloody struggle of Antiquity.

The first treaty granted the Romans trading concessions in Sardinia, Sicily and Africa, but barred their ships from skirting the traditionally fertile areas of central and southern Tunisia. In the second, the Carthaginians imposed stiffer terms, expressly forbidding the Romans to land in Sardinia, Africa or Andalusia, unless compelled to do so by circumstances beyond their control. Carthage was thus unsparing in its military and diplomatic efforts to consolidate its position and extend the bounds of its empire.

THE rise of Carthage was next to be challenged by the power of Greece, which was at its height in the 5th century B.C. Greece inflicted a crushing defeat on the Punic forces in 480 B.C., near Himera in Sicily; this marked the turning-point of Carthage's supremacy as a sea power.

The Greeks' mounting domination of the eastern and western Mediterranean led to many changes in the Carthaginians' way of life, which was thenceforth marked by severe austerity. Archaeologists have been struck by the scarcity of imported objects such as Corinthian and Attic pottery and Egyptian grave furnishings in the tombs of that period.

At the same time, Carthage's isolation and depleted trade raised supply problems for various commodities which were by no means luxuries. To solve its difficulties, renew its fighting forces and be capable of resisting any attacks from Greece, Carthage resolved to conquer a hinterland in North Africa, roughly corresponding to the present territory of Tunisia.

The conquest, effected at the cost of bitter fighting with the local population, turned the Carthaginians "from Tyrians into Africans." At the same time, it made a considerable contribution to the Punic economy, mainly in the shape of a copious agricultural output, and to the army, which had a large contingent of tried warriors at its command.

The conquest also marked the beginning of a new era for the Tunisia of Antiquity, which began to enjoy a bigger share of the benefits of Punic civilization. The common inheritance and national identity of present-day Tunisia are indelibly stamped with the Carthaginian influence.

The development of Tunisia, the new markets opened up in the African continent, the flourishing trade relations formed with the eastern states emerging from Alexander's conquests, and the dogged will to recovery, restored Carthage to its former vigour at the very time when the Greek cities, weakened by interminable civil strife, showed signs of irreparable decline.

Carthage seized every opportunity to retrieve all it had lost in Sicily. In vain did Agathocles, Tyrant of Syracuse try to bar the way, though he invaded North Africa and reached the ramparts of Carthage; in vain did Pyrrhus, King of Epirus and champion of a rapidly waning Western Hellenism, fly to the help of the Greek cities of Sicily; the cause was hopeless, and Carthage succeeded in extending its influence to practically the whole island.

With added effort, it could have dominated the situation well before the middle of the 3rd century B.C.; but it dallied too long, and did not invest Messina until 269 B.C.—to find itself face to face with Rome, now a great Mediterranean power. The two giants were soon locked in mortal combat; the three phases of the

CONTINUED PAGE 13

MINIATURE MASKS

A funeral necklace pendant, this tiny mask wrought in glass paste (3rd century B.C.) measures only 2.5 by 3 centimetres. Carthaginian glassmakers became masters at the art of miniaturizing these expressive multicoloured masks which were placed in tombs to protect the dead from evil spirits. (See also colour photos page 12.)

Bardo Museum, Tunis
Photo Luc Joubert © Archaeologia Viva

One of the great fleets of Antiquity

protracted struggle assumed the dimension of world wars, measured by the scale of antiquity.

The last phase of Carthage's development as a Mediterranean power occurred between the first and second Punic Wars. After losing the first war, Carthage was compelled to withdraw from Sicily completely. Some germs of weakness were already sapping its strength; its ruling caste was often blinkered by self-interest, and morbidly hostile to true greatness or reforming zeal.

ONE Carthaginian general, Hamilcar Barca, was clear-sighted enough to detect the causes of his country's ills, and draw a lesson from all its recent misfortunes. To him belongs the credit for the renewed expansion of the Carthaginian empire in the Mediterranean. The measures he adopted were revolutionary by comparison with the Carthaginians' conception of their imperial role.

He borrowed his remedies from the Hellenist kings, who combined regal power with military authority; but a monarchy at Carthage was unthinkable. It was not, therefore, at home that Hamilcar was to found his kingdom, but in Spain, where the Phoenicians and Carthaginians had already made their fortunes; it was at once far enough from Rome and Carthage to allay their suspicions, and wealthy enough to offset the isolation of the Punic economy in case of war.

Hamilcar realized that in Spain he could lay the foundations of a strong monarchic and military power, while finding at hand all the economic and human resources he needed. He promptly set about the conquest of the country, and soon subdued a part of it.

He modelled his approach on such empire-builders as Alexander, and based his rule on military power, fostering the legend of the inspired and invincible leader. At the same time, he enlisted defeated troops and encouraged mixed marriages to assimilate the local population.

His successor Hasdrubal followed in his footsteps, and founded a second "new capital", Carthagena, which robbed Carthage of the distinction of being the one and only "new Tyre"; he built a palace there and assumed the title of king.

The benefits of the Spanish conquest were soon felt throughout the Punic world. In less than twenty years Hamilcar, Hasdrubal and Hannibal (all of the Barcid family) had succeeded in replenishing the coffers and renovating the economic and military strength of Carthage. Vast horizons were re-opening before the Carthaginian empire when Rome, fearful of the inevitable developments that lay ahead, hastened to declare war on Carthage.

Hannibal's defeat on African soil in 202 B.C. sounded the knell of Carthage as a Mediterranean power. Thenceforth, until its destruction in 146 B.C., the unfortunate city could barely claim a measure of autonomy in the conduct of its internal affairs.

The chief credit for the long and successful expansion of the empire naturally belongs to the Carthaginian navy, which was heir to the seamanship of the Phoenicians, and used it to some purpose.

The Punic fleet consisted of heavy vessels with rounded hulls, mainly used as merchant shipping, and long, narrow, fast galleys, easy to handle when manoeuvring in face of an enemy fleet.

Polybius describes these as being "so constructed as to move in every direction with the greatest of ease; their oars were manned by experts . . . If any of the vessels were hard-pressed by the enemy, they fell back without running any risk; it was easy for such light craft to make for the open sea. If the enemy advanced in pursuit, they turned about, hovered around them or approached them on the flank and repeatedly rammed them . . ." Galleys were used for the battle fleet; the merchant vessels were usually less manoeuvrable sailing craft.

THE several thousand vessels of the Carthaginian fleet were built by skilful and experienced craftsmen; the dockyards were among the most celebrated in the ancient world. The mariners had a profound knowledge of the sea, and although the compass was unknown to them, steered with unerring sureness. In wartime the State requisitioned merchant vessels, fully manned, to carry troops and stores; in peacetime, the naval vessels protected merchant convoys from pirates, or guarded the approaches to Carthage's exclusive trading areas.

Carthage was heir to a long tradition of seafaring and exploration. The Phoenicians had distinguished themselves by sailing round Africa, at the behest of Nechao Pharaoh of the 26th dynasty. Setting out from the Red Sea, they negotiated what is now the Cape of Good Hope, and returned to Egypt through the Straits of Gibraltar (or "Pillars of Hercules").

Little information can be gleaned from Carthaginian sources except

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MASTER GLASSMAKERS OF CARTHAGE

Three examples of the glass paste amulet masks "mass produced" in ancient Carthage. The predominating colours of these tiny pendants are white, dark blue and yellow. The oldest (top), of Syrian inspiration, is white and brown, and dates from the end of the 4th century B.C. The man's beard is suggested by a roughening of the surface, but in most cases the chin is covered by skilfully worked corkscrew curls. The master glassmakers of Carthage also worked with pearls and wrought delicate perfume flasks, bibelots and jewellery of elegant craftsmanship.

Bardo Museum, Tunis
Photo Luc Joubert © Archaeologia Viva

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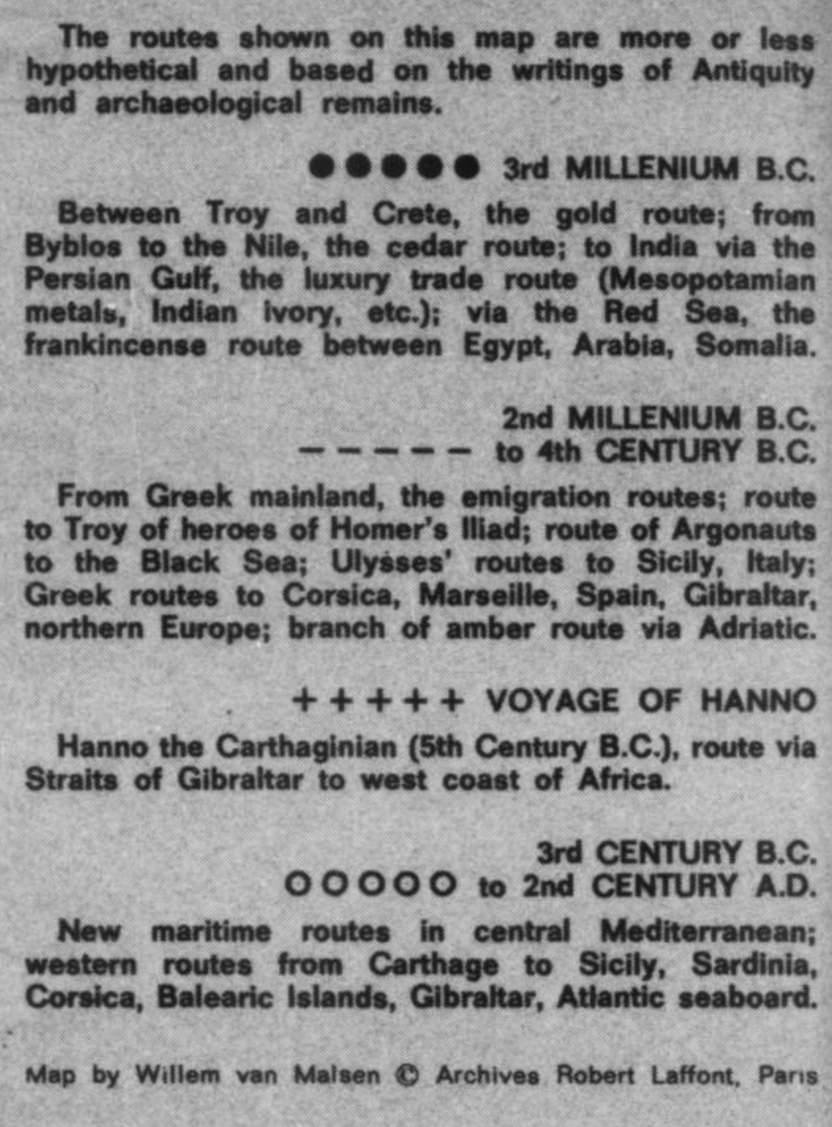
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Map by Willem van Malsen © Archives Robert Laffont, Paris

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Next we went on in a westerly direction and arrived at the Libyan promontory of Soloeis, which is covered with trees; having set up a shrine to Poseidon, we set sail again towards the rising sun for half a day, after which we arrived at a lagoon close to the sea covered with many tall reeds. Elephants and large numbers of other animals were feeding on them. Leaving this lagoon and sailing for another day, we founded the coastal cities named Carian Wall, Gytte, Acra, Melitta and Arambys.

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But some historians are inclined to think the distance covered was much shorter. The difficulties of identification have also given rise to the suggestion that Hanno may himself have enbroidered the truth, to avoid giving away any precise information about an itinerary which opened the road to the gold trade.

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The Carthaginians, those indefatigable "sea hauliers", aimed to improve their trade by these expeditions. They long enjoyed a virtual monopoly of the Atlantic traffic, which mainly led them in two directions: first, to the shores of tropical Africa and secondly to the coasts of Europe, especially Brittany, England and Ireland. Himilco and the Carthaginian traders pressed on to these far shores mainly in search of silver and tin.

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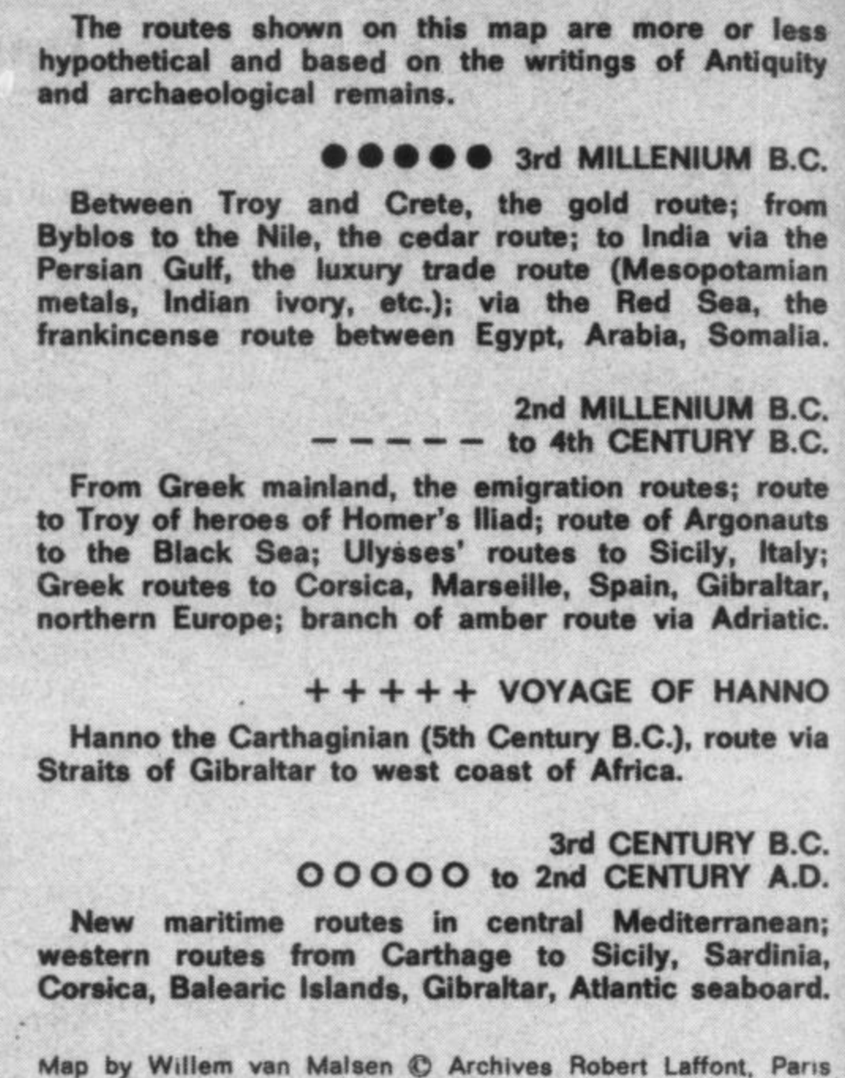
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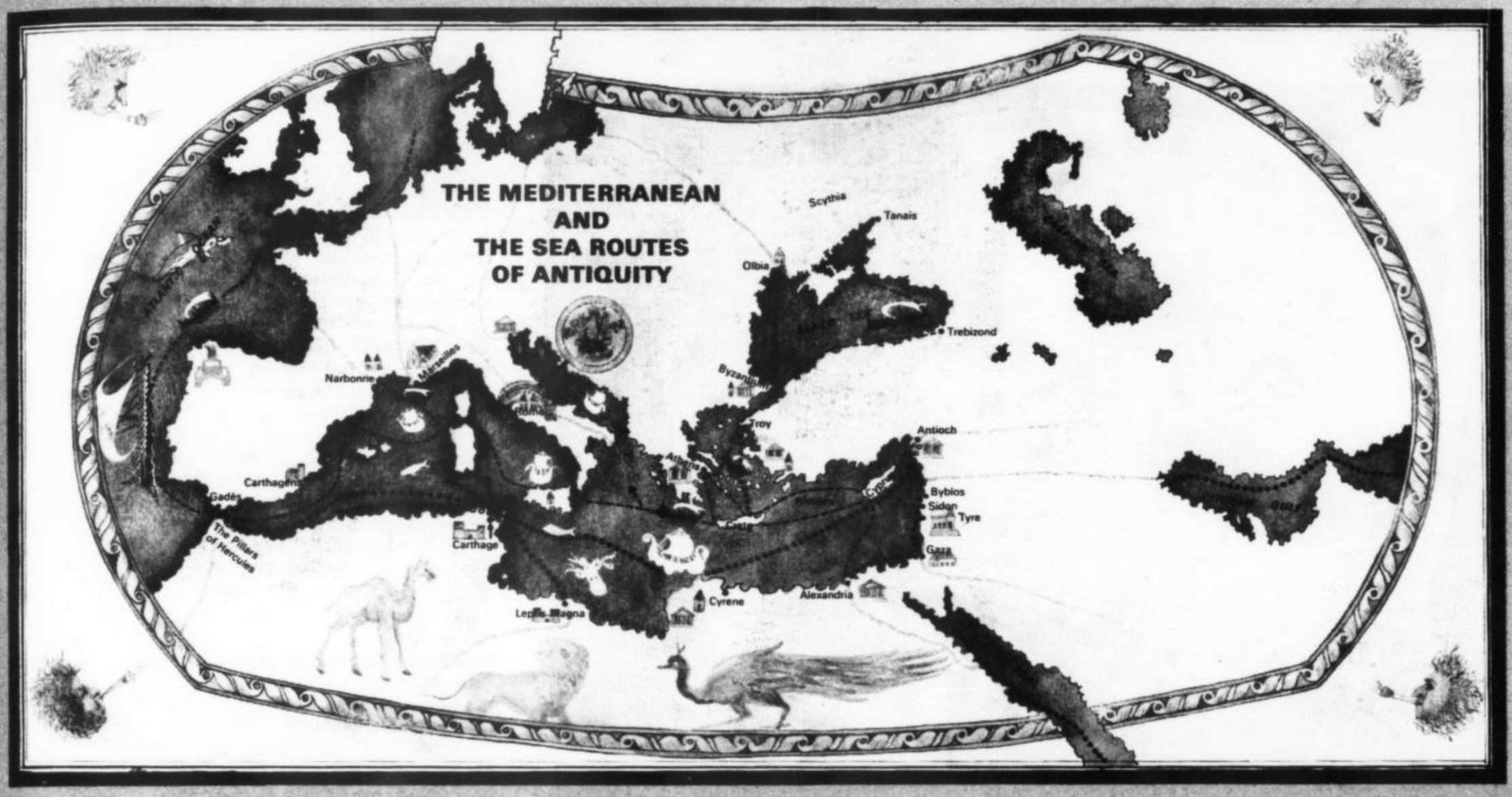

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Photo Luc Joubert © Archaeologia Viva

Carthage was known in the world of Antiquity as a centre par excellence for the importation and exportation of cultural as well as commercial enterprise. Left, a mask painted on a fragment of ostrich egg shell. Many such masks to protect the dead have been found in Carthaginian tombs in Sicily, Sardinia and Spain. Below left, a 3rd century B.C. Iberian statue closely influenced by the Punic art style. (Prado Museum, Madrid.) It is named the "Lady of Elche" from the site where it was found in Spain. Centre and right, two terracotta statuettes from Punic sites in Tunisia: an Egypto-Phoenician sphinx (6th century B.C.) and a mother-goddess figure in the Ionian (Greek) style of the same period. These works were either imported or copied by artists in Carthage. (Carthage National Museum)

GRANDEUR AND DECLINE *(Continued)*

powerful civilizing force in the ancient world. Its contribution, long underestimated, is beginning to be better appreciated, thanks to the widespread development of archaeological excavation and historical research.

In 146 B.C., the Roman general Scipio Aemilianus, allotted the task of destroying Carthage, it would appear, unwillingly, could not restrain his tears. He recited aloud the well-known lines of Homer: "A day will come when Ilium, the sacred city, will perish; when Priam and the subjects of Priam, skilful in handling the spear, will perish . . ." He must have been equally distressed by the tragic spectacle of the burning city and by the disappearance of a great and influential metropolis.

Few vestiges of Carthage escaped the destructive fury of its enemies. Today they adorn a peaceful residential district, greatly appreciated for its tranquillity and the subtle charm which surrounds it. The site is one of the most beautiful in the world, located on a promontory at the far end of the Gulf of Tunis, with white houses set in vast gardens stretching towards the sea.

At the foot of the promontory are remnants of the Punic ports with their two harbours, one enclosing an islet which seems to have held the Admiralty buildings. Here one of the greatest fleets of the ancient world rode at anchor; here was the starting point for the intrepid Punic navigators and empire builders.

The ports are silted up, and now give only a remote and hazy idea of their historical importance. If they and the other remains of Carthage were worthily restored, this shrine of history might regain a semblance of its former glory. ■

Photo © Roger-Viollet, Paris

EIGHT CENTURIES OF CARTHAGINIAN CIVILIZATION

by
Gilbert-Charles Picard

GILBERT-CHARLES PICARD *is head of the French archaeological mission at Mactar (Tunisia). He is professor of Roman Archaeology at the Sorbonne, Paris and director of Historic Antiquities for central France. From 1941 to 1955 he was director of Antiquities in Tunisia, where he supervised the excavations at Carthage, in particular at the Antonine Baths. He is the author of several studies on the history and archaeology of Carthage. Two of these have been published in English: "The Life and Death of Carthage" (in co-authorship with Colette Picard), Sidgwick and Jackson Ltd., London, 1968; and "Carthage", Elek Books, London, 1964, and F. Ungar Publishing Co., New York, 1965.*

CARTHAGE occupies a unique place in history. It was a colony established in the western Mediterranean by a Semitic people from Asia, in itself an unusual circumstance, although colonization of the East by Europeans has been a frequent occurrence throughout the ages. A few similar cases of westward colonization did occur in historical times—the most remarkable example being the Moslem colonization of Spain—and there may have been other cases in pre-history though there is no clear evidence of this.

But though in Spain the Caliphate of Cordova and the Kingdom of Granada were largely instrumental in bringing elements of Islamic civilization to the West, they did not become a part of the life of medieval Europe, remaining alien enclaves on its southern fringe. The peoples of Europe never accepted their presence and, concentrating all their energies into the struggle, finally expelled them.

Carthage, however, lived for five or six centuries in close and constant contact with the inhabitants of northern Africa, with peoples of Italy

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Photos Luc Joubert © Archaeologia Viva

The legendary voyage of Princess Elissa

of diverse origins and civilizations, with Iberians and with Celts. Its destruction was not the outcome of a century-old crusade; it was a purely political event in which racial or cultural hatreds played no part.

Contrary to what happened in 16th century Spain, the destruction of Carthage was not followed by a systematic uprooting of its civilization; Punic culture died out slowly and without violence, merging gradually with that of Rome.

THE very special role that Carthage was to play had clearly not been foreseen by its founders. It resulted from a historical evolution extending over at least six centuries in the course of which the very basis of the city's existence underwent several fundamental transformations.

During the first phase, of which very little is known, Carthage appears to have been no more than one of many Phoenician trading-posts scattered along the tin route. The invention of bronze, an alloy of copper and tin, had forced the men of the second millenium B.C. to establish trading links that were astonishingly far-ranging considering their limited means of communications.

Copper was to be found in fairly large quantities in the countries of western Asia which, with Egypt, were then the centres of Mediterranean civilization. But there was virtually no tin in the countries bordering the eastern Mediterranean. It was mined in western and north-western Europe, in Spain, in Brittany and the British Isles. In these regions bordering the Atlantic had grown up the far-famed, mysterious Megalithic civilization which maintained trading and even cultural ties with peoples of the East.

The chief point of contact was situated in the kingdom of Tartessos, (present-day Andalusia,) whose mineral wealth was still a source of wonder to the Greeks of the 6th century B.C. There the traders met, some having come from the north along the coasts, others having travelled from the Aegean and from Asia.

At the end of the second millenium B.C., this trade, long controlled by the Mycenaeans, was taken over by the Phoenicians. They began to establish small trading settlements at their regular stopping places.

The dates of the establishment of the chief settlements have been handed down by tradition.

Surprisingly enough, the most remote, Gadès, present-day Cadiz, was reputedly the most ancient, being founded in about 1200 B.C. Utica, on the northern coast of Tunisia near the mouth of the Medjerda, was a close contemporary (1178 B.C.), while Carthage appeared later, in 814 B.C.

Unfortunately, these dates have not been confirmed by modern archaeological research. Whereas the objects discovered on the sites of the Greek colonies can be dated to about the time the Greeks were traditionally said to have established their settlements, those unearthed at the sites of Phoenician towns are clearly of a later origin than the date of founding given by texts.

At Carthage, for example, leading specialists have dated the oldest ceramics found in sanctuaries and tombs to around 750 B.C. at the earliest—more than sixty years after the date given by the writers of antiquity for the arrival in Africa of Dido (the Phoenician princess Elissa, reputed founder of Carthage). In the case of Utica and Gadès the gap is wider still, amounting to three or four centuries at least.

This conflict in dates raises a thorny problem which has long been debated by archaeologists and to which no satisfactory solution has as yet been found. Are the texts incorrect? Should more exhaustive archaeological explorations be made? Should the dating of the "fossil remains" be revised? In all honesty it must be admitted that the issue remains problematical.

Fragmentary information has been handed down by a literary tradition of dubious worth, in which ancient religious myths, rationalized to some extent, inventions of writers and possibly a few authentic historical facts are inextricably entwined. It suggests that Carthage, unlike other settlements, was not founded for primarily economic reasons. It appears to have been established by a banished princess as a refuge for political exiles.

But according to the same "Dido myth", the colonists' resources failed to match the scale of their ambitions. Much hard bargaining seems to have taken place before the Libyans would concede them sufficient space to establish the "new town"—the meaning of the Phoenician words "Qart Hadasht", deformed by the Romans into "Carthage"—and this only on payment of a tribute.

In fact, the few archaeological remains recovered from diggings in the sanctuaries and tombs of the first Carthage of the 7th and 8th centuries B.C., give no indication that the settlement could act as an independent state, let alone as an imperial power.

Its economy remained dependent upon the parent city, although beautiful jewellery and fine ivory carvings bear witness to a fairly high standard of living. Geographical factors, however, gave Carthage greater opportunities for expansion than the other Phoenician colonies. The latter were generally established on small islands near the coast or at the extremities of rocky promontories, sites which guaranteed their security but not their livelihood which continued to depend almost exclusively upon the sea.

Carthage, however, had been built on the eastern shore of a peninsula whose "head" embraced an area of about twenty square kilometres of small, fertile, well-watered plains on either side of a curving chain of hills. Control of the sandy isthmus linking it to the mainland between the Lake of Tunis and the Ariana lagoon was all that was required for full command over this little, self-sufficient world.

Although no precise date is known, it seems likely that the Carthaginians achieved this essential control fairly quickly, thus acquiring liberty of action vis-à-vis both the local population and their parent city.

This explains how Carthage was able to take over the role played by Tyre when, weakened by its unending struggle against the kings of Assyria and Babylon, it was no longer strong enough to protect the Phoenicians of the west effectively against the growing pressure of Greek competition, then making itself felt on all sides.

Tyre itself had taken advantage of the collapse of Mycenaean power, destroyed around 1200 B.C. by the Dorian invasion, to build its maritime empire. But the poets kept alive among the Greeks, throughout their centuries-long "Middle Ages", the memory of the bold maritime exploits of their heroes.

IN about 800 B.C., the Achaeans, the Euboeans, the men of Rhodes, soon followed by the Corinthians and the Ionians of Anatolia, had undertaken the re-discovery and the re-occupation of the ports of call once visited by Ulysses and the Argonauts. At first they were content to settle on shores that the Phoenicians had reconnoitred without establishing firm bases: the coasts of Cyrenaica, of southern Italy and, above all, Sicily.

But large scale emigration soon caused these colonies to be cramped for space and newcomers were forced to move farther and farther on—to the coasts of Gaul, where Marseilles was founded in 600 B.C., to Catalonia and farther south on the Spanish coast towards the kingdom of Tartessos with its fabulous riches. Friction grew at all the points of contact between the Greek and Phoenician possessions—the Gulf of Syrte, western Sicily, Corsica the Iberian Levant—leading to limited but repeated conflicts.

Photo Rabat Museum

This striking bronze bust of Hannibal, the great Carthaginian general and statesman (247-183 B.C.) was discovered in 1944 in the Roman ruins of Volubilis, north of Meknès, Morocco. Hannibal's portrait has also come down to us on coins struck between 221 and 219 B.C., and two marble busts of him have been identified. When the Second Punic War with Rome broke out in 218 B.C., Hannibal and his army crossed the Alps and invaded the Italian peninsula. After winning numerous victories, he was called home to Carthage where he was finally defeated by the Roman general Scipio at Zama in 202 B.C.

To hold their own, the Phoenicians of the west had to unite, to create a military force and seek alliances with peoples who, like themselves, were threatened by Hellenic imperialism. This involved a complete revision of a traditional trading policy which, apart from a few piratical raids, had been largely pacific. The transformation was undertaken under the guidance of the first of the Carthaginian political leaders of whose personality history has some notion—king Mago, who reigned from about 550 to 530 B.C.

Mago created an army consisting essentially of mercenaries—the Carthaginians themselves were too few in number to do more than man an élite regiment and provide officers—backed up by a large and well-trained fleet. He set out to gain control of bases at carefully selected points which would be entirely dependent, both politically and militarily, upon Carthage.

One of these bases had long been established (in 654 B.C. according to tradition) at Ibiza in the Balearics. Mago established others, at Motya on the western tip of Sicily, and especially in Sardinia where Phoenician colonists had gained a foothold as early as the 9th century B.C.

In the diplomatic field he strengthened the existing treaty with the Etruscans. This people, perhaps originally from Asia Minor, and at any rate strongly influenced by oriental tradition, were themselves disturbed by the Greek incursion. The first result of this collaboration between the Etruscans and the Carthaginians was to deny the Greeks of Phocaea, in Asia Minor, a foothold in Corsica.

Mago's actions also had important repercussions on internal political and cultural affairs. Very little is known of the nature of the government of Carthage at this period. The head of state was a king with essentially religious powers perhaps, yet among a people whose gods dominated every aspect of their lives, these powers were considerable. But the king had to pay regard to the aristocracy, and the assembly of citizens could be called upon to decide any dispute arising between these two authorities. Having become the military as well as the spiritual leader, the king gained increased power.

Without in principle being hereditary or even held for life, the kingship was in practice reserved for the members of a single family, and during this period there was no instance of any holder of the office being deposed during his lifetime. Mago and his successors had, in effect, managed to surround their power with a mystic aura by skilfully playing upon nationalism and religious fanaticism.

Carthage had inherited from Tyre a religion which was a mixture of often uncivilized and bloody naturalistic rites, designed to ensure the fruitfulness of nature, and the highly refined theological speculations of a learned and intelligent priesthood. The priests

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from different towns and temples formed schools which held widely varying views as to the powers and the relationships between the gods of an elaborate pantheon.

Thus the theologians of Tyre stressed the importance of the city's patron god Melqart, a vigorous and much travelled deity whom the Greeks saw as the counterpart of Herakles. Other sects, however, worshipped transcendental divinities such as El, the king and father of all gods. The majority of the priests of Carthage tended to follow the latter belief.

Although Melqart was honoured in Dido's city, the god El held pride of place. In keeping with a custom common among Semitic peoples, the god's real name, too charged with sacred power, was not spoken. Instead the name Ba'al Hammon, meaning "Lord of the Furnace", was used, according to an interpretation by the French scholar James G. Février.

This name recalls that Ba'al Hammon presided over the sacrifices which have cloaked the name of Carthage with a sinister reputation. In his honour young children, their throats having probably first been cut, were thrown into a furnace at the foot of his statue.

The efficacy of a sacrifice being in direct proportion to the victim's worth, it is not to be wondered at that all ancient peoples, from the Greeks and Romans onwards, should have practised human sacrifice.

Indeed, many peoples had a ritual which consisted in the king, whose function it was to link the human with the supernatural world, being put to death when his powers began to fail him. In this way this energy could pass on to a successor.

The Phoenicians in general and the Carthaginians in particular were not, therefore, alone in the practice of human sacrifice and the immolation of their kings. But at Carthage these practices long remained widespread whereas among other nations, except among the Gauls who practised human sacrifice for so long as they remained independent, they became rare and virtually died out. Moreover, the sacrifice of adults was avoided by substituting as victims their infant children.

The ashes of the victims were buried in holy precincts known as tophets, and stone monuments were erected commemorating the sacrifice. The discovery of these tophets at Carthage itself, in the port area today called Salammbo, and in all the other Punic cities of Africa and Sardinia, leaves no doubt that such holocausts did take place and that they continued up to the fall of Carthage, though towards the end the priests would sometimes accept a sacrificial lamb in place of a child.

The Magonid period, which extends from the middle of the 6th to the beginning of the 4th century B.C. marks the apogee of the Ba'al Hammon cult.

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Colour pages

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THE ANTONINE BATHS. The remains of the imposing baths built by the Roman emperor Antonius Pius in the middle of the 2nd century A.D. reflect the splendour of Carthage, when it became the capital of the Roman empire in Africa. Restored during the 4th century, the baths were in great part destroyed by Vandal invaders of the 5th century. They are now to be restored and preserved with the aid of a United Nations Development Programme-Unesco project.

Photo Michel Desjardins © Réalités, Paris

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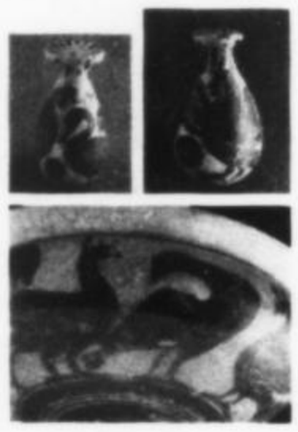
PRAYERS IN STONE. Neo-Punic stelae erected in Carthage to commemorate animal sacrifices to the god Saturn. After the Roman conquest, Saturn replaced the Carthaginian god Ba'al Hammon who, with the goddess Tanit, had dominated Carthaginian religious life for eight centuries.

Photo Michel Desjardins © Réalités, Paris



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LUXURIES IMPORTED. Dating from the 6th century B.C., these three pieces of pottery were brought to Carthage from the wealthy Greek city of Corinth, destroyed by the Romans at the same period as Carthage. The two at the top are perfume jars, decorated with a swan and a siren, while the bowl below bears a bird motif.

Bardo Museum, Tunis
Photos Luc Joubert © Archaeologia Viva

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FOR THE LAST JOURNEY. Three Punic terracotta masks. Left, mask with grimacing demon face (4th century B.C.) recalls theatre masks of the same period in Sparta. This type of mask was hung at the entrance to a sanctuary or on mortuary urns perhaps to drive away evil spirits. Centre and right, masks (5th and 6th century B.C. respectively) found in the oldest tomb so far unearthed in Carthage. Their serene expressions contrast sharply with the mask on left. They offer a picture of the ideal of feminine beauty of their day, and may represent a female deity. Unlike Egyptian or Mycenaean masks which were placed on the faces of the dead, Punic masks were put on or under the coffin.

Photos Luc Joubert © Archaeologia Viva

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DECORATIVE CRAFTSMANSHIP. A bronze vase handle made in Carthage and discovered in a 4th century B.C. Carthaginian site. Similar Carthaginian objects have been found in Sicily and on the Italian peninsula.

Photo Luc Joubert © Archaeologia Viva

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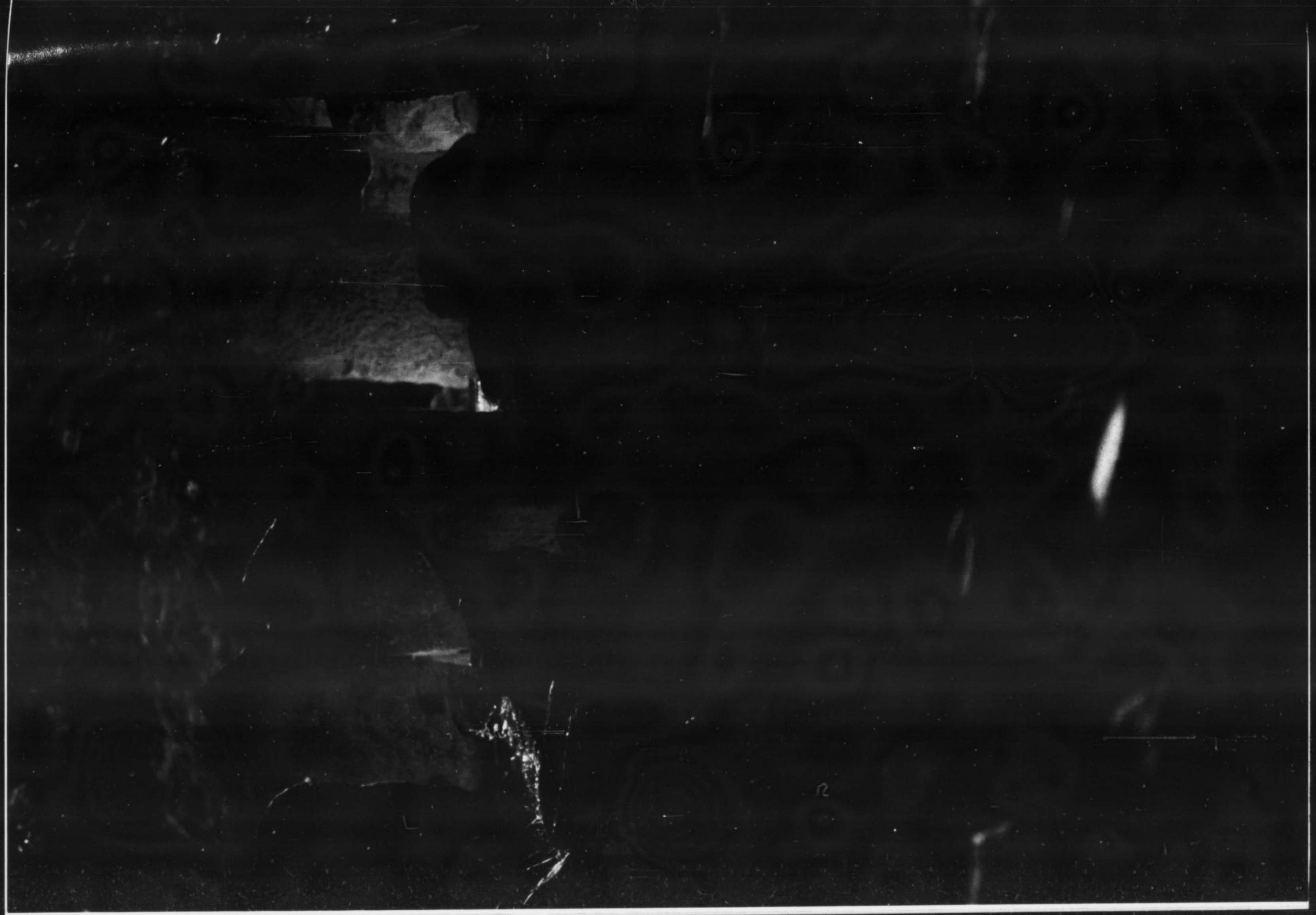
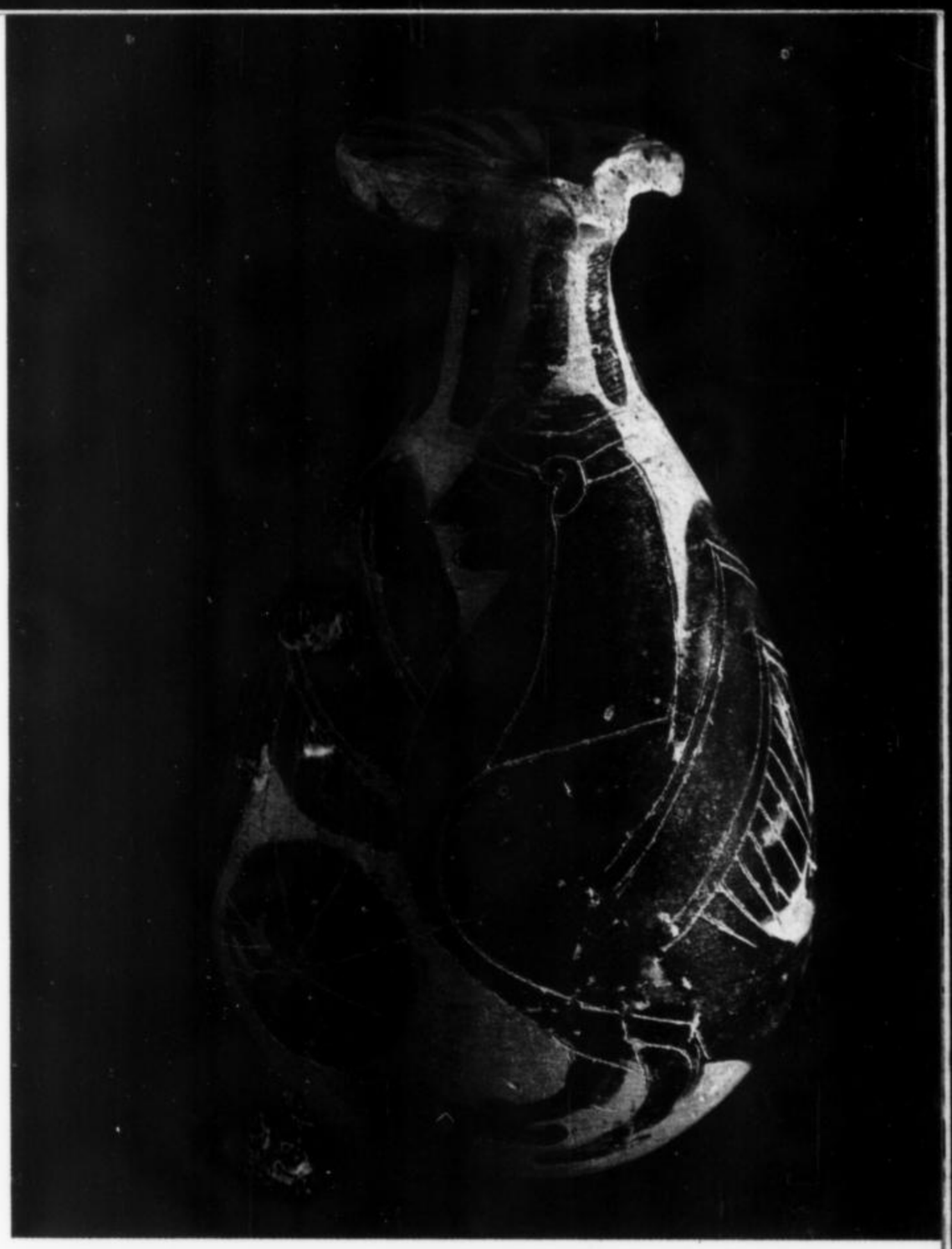
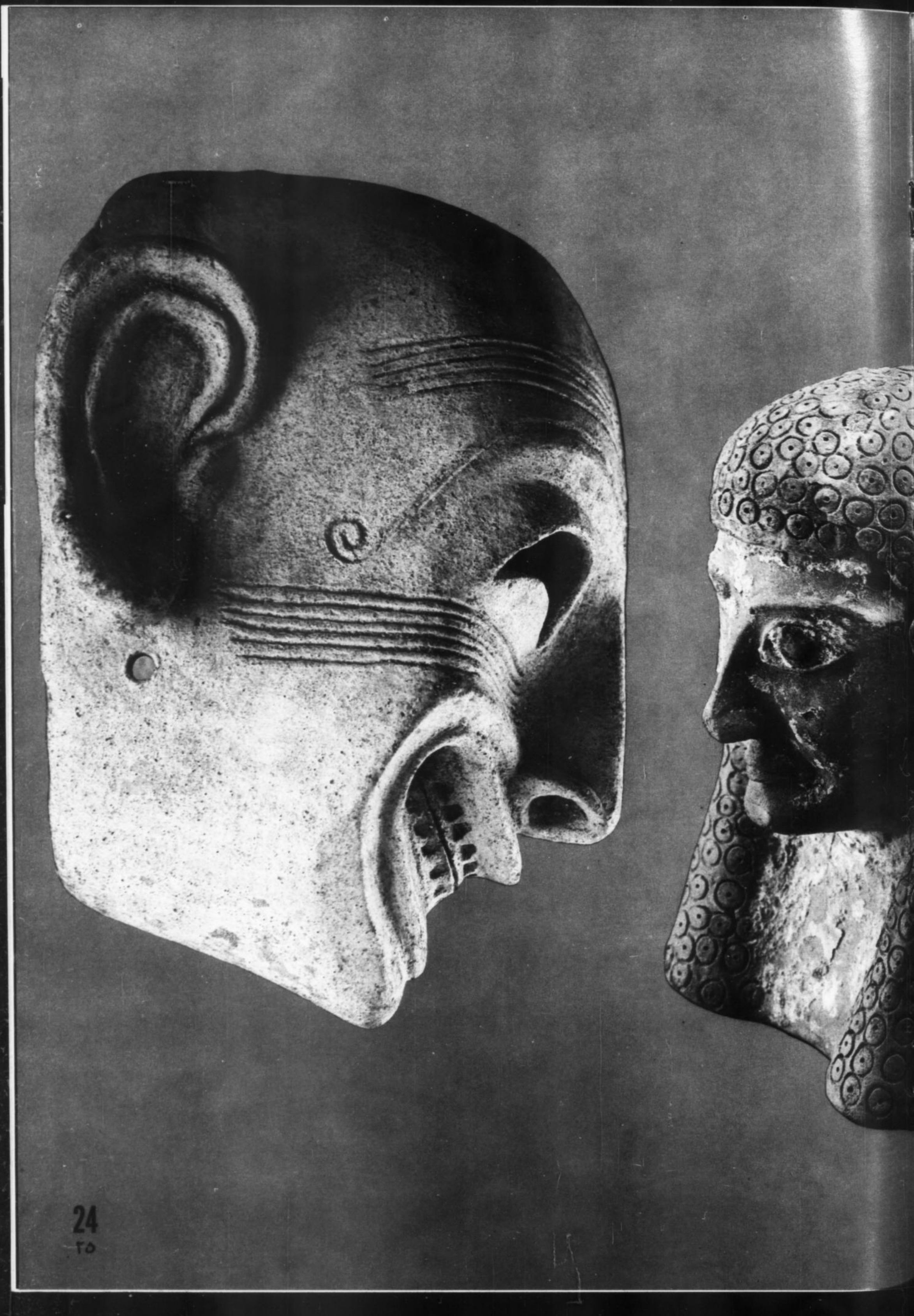
THE TEMPTATION OF ULYSSES. Fragment of a 3rd century A.D. Roman mosaic discovered at Dougga, Tunisia. It illustrates the incident in Homer's Odyssey in which Ulysses has himself lashed to the mast by his companions who block their ears with wax so as not to succumb to the irresistible songs of the sirens. Mosaic art reached great heights in Rome and its colonies of Africa. In Carthage, mosaics often illustrated secular as well as religious themes. The Unesco World Art Series in 1962 devoted an entire album to these mosaics. Entitled "Tunisia: Ancient Mosaics" it was published by the New York Graphic Society with Unesco support.

Carthage National Museum. Photo Unesco © World Art Series







CARTHAGE
through the eyes of Greece and Rome

by Mhamed Fantar

PHILO of Byblos, a Greek historian of the 2nd century A.D., tells us the legend of the first Phoenician seafarer.

Caught in a forest fire, Usos stripped a tree of its branches, straddled the trunk and pushed off into the sea to escape the flames. This was the first Phoenician venture into Mediterranean waters.

The Iliad, the Odyssey, the Torah, the Tablets of Ugarit and many other equally famous writings have preserved for us a record of the Phoenician navigators, their remarkable voyages and the riches they gained from their trading ventures, particularly in the country known as Tarshish, located, in all probability, in southern Spain.

Tarshish, with its plentiful supplies of copper, silver, lead and tin became the goal of Phoenician maritime expeditions from Tyre and Sidon. Describing its vast mineral wealth, the Greek historian Diodorus Siculus writes: "The country of the Iberians has the most plentiful and the richest silver mines that are known. The Iberians were ignorant of the value of silver, and the Phoenician traders were able to buy it in exchange for a very small quantity of merchandise; they took it to Greece, Asia and other countries, and thus amassed great wealth. This trade, which they plied for many years, brought them power and enabled them to establish numerous colonies in Sicily and the neighbouring islands, in Libya, Sardinia and Iberia."

On their voyages westward to Tarshish, the Phoenicians became familiar with the North African coastline. Soon they set up small trading stations where their ships could put in to rest the crews and take on supplies. Carthage was undoubtedly the largest and most important of these Phoenician outposts in the west. A legend that appears to explain the reasons and events that led to its foundation is recorded by the writers of Antiquity.

According to this version, Carthage was founded by Elissa, sister of Pygmalion, King of Tyre, who was married to Acerbas, the high-priest of Melqart. Acerbas was murdered by Pygmalion who coveted his wealth. The grief-stricken princess decided to flee from Tyre, and with skill and diplomacy

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HANNIBAL TROPHY? This bronze breastplate may be a trophy brought back to Carthage from Italy by a veteran of one of Hannibal's campaigns towards the close of the 3rd century B.C. It represents a typical piece of workmanship of the Campania region not far from present day Naples. It is decorated with the head of Minerva, the Roman version of the Greek goddess Pallas Athena. The object was uncovered in a wooden coffin near Sousse in Tunisia.

Bardo Museum, Tunis
Photo Luc Joubert © Archaeologia Viva

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A city open to all men and gods

Carthage National Museum Photo Luc Joubert © Archaeologia Viva

The finely engraved decoration on this sacred razor, with its handle in the form of the head and neck of a bird, shows the Egyptian influence that affected Punic art. The Carthaginians inherited a long tradition of craftsmanship in metal from their Phoenician ancestors and many Punic inscriptions testify that metalworkers and jewellers flourished in Carthage. Talismans of eternity, the sacred razors were placed in the tombs together with necklaces and glass pendant masks.

succeeded in deceiving her brother and lulling his suspicions. Accompanied by a group of Tyrian nobles, she went to Cyprus where she was welcomed by the high-priest of Jupiter. She and her followers then sailed for Africa and disembarked at the site of the future Carthage.

It would be difficult to accept this as an authentic record but the facts it relates fit to some extent into the picture of the Phoenician world, and thus may shed some light on the history of Carthage and the Carthaginian civilization.

The date most commonly accepted for the foundation of Carthage is 814 B.C. But some historians believe that this is too early: archaeological remains recovered from excavations at Carthage do not appear to be older than the 7th century B.C., which far from confirms the ancient texts.

Yet can we be sure that we have reached the oldest level of the city? Who knows what surprises may await us during future excavations! Perhaps we shall find remains even more ancient than the terracotta vases unearthed in the little "Cintas Chapel". These are in the sub-geometric style of the Cyclades and cannot be older than 750 B.C.

THE archaeologist, as we know, needs to be patient, scrupulous and cautious. The historian, for his part, should not regard data on far-off times handed down by tradition as infallible, nor should he systematically distrust them. Archaeology often confirms the writings of the Ancients. Indeed, in the case of Carthage, archaeological studies and literary tradition can perhaps be reconciled.

The Phoenicians, in 814 B.C., may have founded a small outpost similar to the many others they established along both shores of the Mediterranean, where they replenished their stores and perhaps traded with the local population. But their principal objective seems to have been the mineral wealth of Tarshish.

In the 8th century B.C., two dangers threatened the seafarers of Tyre. This was the period of expanding Greek colonization in the western Mediterranean. In 750 B.C. Greek colonists founded Cumae in the Bay of Naples, through which was sent the copper ore from the mines of Etruria and Campania. Seventeen years later, the Greeks founded Syracuse. The Phoenicians must have realized the danger from these new Greek settlements which threatened their shipping and trade routes. Something had to be done to check and contain the Greek expansion.

The second danger to the Phoenician merchants came from Assyria. The wealth of the Tyrian cities quickly roused the greed and envy of the Assyrian rulers. Assurnasirpal II (883-856 B.C.) speaks of "the tribute of the kings of the sea coasts—the country of the Tyrians, the country of the Sidonians, the country of the Gibilites... and the town of Arvas in the midst of the sea...silver, gold, lead, bronze, vases of bronze, garments of many colours, linen tunics... I received their tribute and they kissed my feet..."

The Assyrian greed was insatiable and the Phoenicians lived in fear of seeing their wealth seized by these powerful and unscrupulous overlords. A Phoenician colony in the western Mediterranean, they felt, would check Greek expansion and also provide shelter from the Assyrian danger. Such considerations probably explain the spectacular rise of the "new town" in the middle of the eighth century B.C.

At all events, the foundation of Carthage is an established fact, so let us see what is known about it by examining sources that throw some light on Carthage, its history and culture.

Firstly, what can we learn from the writers of Antiquity? The Greeks and the Romans were both well acquainted with Carthage and its people. They met as enemies on the battlefield and as rival traders in the ports of the Mediterranean, which has seen the rise and fall of so many civilizations. It would take too long to enumerate here all the classical writers who tell us about Carthage, but we may quote a few of them.

There is, for instance, the famous passage in Herodotus, which describes the trading ritual used by Carthaginian merchants seeking gold in Africa.

"The Carthaginians spread out their merchandise on the beach," writes the Father of History, "return to their ships and make smoke to attract the Negroes. The Negroes come down to the sea, place their gold beside the merchandise and withdraw. The Carthaginians then return and if they find

a sufficient quantity of gold, they take it. If not, they return to their ships and wait, and in this case the Negroes add more gold until the traders are satisfied. They do each other no wrong: the Carthaginians do not touch the gold until the quantity seems to correspond to the value of their wares; the Negroes do not touch the goods until the traders have taken the gold."

Another Greek historian, Polybius of Megalopolis, wrote a great deal about Carthage. He watched the army of Scipio destroy the city of Elissa, and as an observer of the Third Punic War he had a special interest in the relations between Rome and Carthage. Two treaties were signed between these Queens of the Mediterranean, and Polybius records their dates and terms. To the same historian we owe the story of Hannibal's oath at the time of his alliance with Philip of Macedonia.

DIODORUS SICULUS is another historian who should be mentioned. He was born in Sicily and describes the wars between the Greeks and the Carthaginians for the conquest of the island.

From his pen comes an account of human sacrifices, a practice that was known among all Canaanites. Caught unprepared by the invasion and shattering victories of Agathocles (310 B.C.), says Diodorus, writing in the Ist century B.C., "the Carthaginians hastened to repair their errors and decreed the public sacrifice of 200 children from noble families. Some citizens facing accusations voluntarily offered their own children, numbering no fewer than 300."

Of the Roman historians, three in particular come to mind: Livy, who wrote a vivid account of the Second Punic War, with a striking pen-portrait of Hannibal; Sallust, whose "Bellum Jugurthinum" tells of the Phoenicians and the Carthaginians; and Justin, whose story of the fabulous adventure of the Tyrian princess Elissa has already been quoted.

Greek and Latin literature thus abounds in references to Carthage. But the history of Carthage was not the primary concern of the classical authors; they were obliged to deal with it because it was an integral part of the events they described, namely the Greek and Roman wars against Carthage.

Classical sources thus give us a portrait of Carthage painted by her enemies, and what they wrote should be interpreted with the greatest caution. This is not to say that we should be systematically sceptical; objectivity, in any case, is a very modern concept for the historian. But as they failed to understand certain aspects of Punic civilization, the ancient historians may give us a distorted picture.

The ideal, of course, would be to have the viewpoint of the Phoenicians themselves, but most of Punic literature is lost. The Library of Carthage was famous and was referred to by classical writers, some of whom appear to have consulted Punic works; Sallust, Servius and Festus Avenius, to name three, refer to Punic books *(libri Punici)* and the Punic records.

According to Pliny the Elder, the library was handed over to the Numidian princes and disappeared without trace. Only fragments of some very famous Punic writings were saved, such as the agricultural treatise of Mago. "Our Senate," says Pliny, "did him great honour. After the fall of Carthage, it presented the libraries of the city to the African princes; but it decreed that exceptionally the 28 books of Mago would be translated into Latin, although Cato had already written a similar treatise. The task was entrusted to persons familiar with the Punic tongue, the principal translator being D. Silanus, of noble birth."

The north African climate is probably to blame to a large extent for the disappearance of the Punic manuscripts; the humidity of Tunisia does not favour the preservation of papyrus.

But there is a Semitic source which can help us to trace some elements of Punic civilization, namely the Torah. Carthage was the daughter of Tyre and Tyre seems to have had a profound influence on the history and civilization of the Beni Israel.

The Book of Kings tells us of Hiram, King of Tyre, and Solomon, son of David, King of Israel. We read in Chapter V: "And Hiram king of Tyre sent his servants unto Solomon; for he had heard that they had anointed him king in the room of his father; for Hiram was ever a lover of David.

"And Solomon sent to Hiram, saying, Thou knowest how that David my father could not build an house unto the name of the Lord his God for the wars which were about him on every side, until the Lord put them under the soles of his feet. But now the Lord my God hath given me rest on every side, so that there is neither adversary nor evil occurrent. And, behold, I

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RINGED GODS

These two gold rings from the Bardo Museum, Tunis, bear witness to the fine workmanship and delicate taste of Carthaginian goldsmiths. Above, a god, clearly Egyptian inspired, holds a Sistrum in one hand and a lotus flower in the other (3rd century B.C.). Below, the Punic Hermes to whom the Carthaginians accorded the same attributes as the Greeks, considering him to be the god of eloquence and trade. His caduceus, or herald's staff is to be found on many Punic stelae.

Photos Luc Joubert © Archaeologia Viva

But where is the Carthage of yesteryear?

PHOENICIAN 12th-10th cent. B.C.	PUNIC 7th-5th cent. B.C.	GREEK	LATIN
K	K	A	A
9	9	B	B
1	1	Γ	G
D	D	Δ	D
3	3	E	E
Y	Y		V
L	L	Λ	L
W	W	M	M
H	H	N	N
O	O	O	O
7	7	Π	P
P	P	Φ	Q
9	9	P	R
W	W	Σ	S
+	+	T	T

From "Les Phéniciens" by Jean Mazel (Robert Laffont, Paris)

THE ALPHABET REVOLUTION

We owe to the Phoenicians, some 33 centuries ago, one of the most revolutionary achievements in the history of human civilization: the invention of an alphabet of 22 signs. Table above shows how 15 Phoenician alphabetic signs evolved down the centuries. In second column, Punic signs (Punic was a Phoenician dialect spoken in Carthage) have been slightly modified. Further changes are shown in Greek version, column 3, and familiar Latin alphabetic symbols in last column.

purpose to build an house unto the name of the Lord my God... Now therefore command thou that they hew me cedar trees out of Lebanon..."

The Bible contains many references to Phoenician civilization which undoubtedly help us to penetrate into the world of Carthage.

But literary sources are quite inadequate to answer all the questions about Carthage. We have to seek elsewhere, and turn naturally to the archaeologists.

At the end of the Third Punic War, the Roman Senate decreed the destruction of Carthage and the order was carried out by the army of Scipio Aemilianus in 146 B.C. After their pillaging and destruction, the Roman soldiers ploughed salt into the soil of Carthage to destroy all fertility and all growth.

But for the archaeologist a much greater calamity was the later decision of the Senate to rebuild. The first attempt was made in the second century B.C. when the Senate ratified the Lex Rubria founding a "colonia Junonia Carthago", which was to have 6,000 colonists. This was a false start—a year later the Lex Minucia repealed the previous law as a series of unfavourable circumstances had made them drop the project.

Under the Caesars, however—particularly Augustus—a complete Roman town was built on the site of the ancient colony of Tyre. This was the real disaster for Punic archaeology. Whatever had escaped the ravagers was demolished by the builders. Labourers, surveyors and architects all contributed to the final destruction of the ruins of the great city. Materials from Punic buildings were used in the first Roman constructions, which were to disappear in turn in the fire that ravaged Carthage in the second century.

A few fragments survive... Excavations in a villa of the late Roman period on the road from the sea to La Malga revealed a fine Punic inscription unfortunately incomplete. About one-third is missing, so that it is difficult to read and understand the text. But this in no way detracts from the exceptional value of the find.

These are the sort of difficulties with which archaeologists have to contend when seeking Punic remains. In 1857 Flaubert visited the site, seeking traces of the principal monuments—palace walls, temples, etc.—but was bitterly disappointed. Other archaeologists have followed each other to Carthage and have discovered very fine Roman monuments—but where is Punic Carthage?

ON April 7, .1878, Father Alfred Delattre discovered the necropolis of Carthage. The tombs contained rich funerary objects—ceramics, jewels, amulets, masks, etc. In some, incriptions were found. Historians stress the inadequacy of such data, not without reason. "But we must not claim," writes the French archaeologist, Stéphane Gsell, "to reconstruct the economic history [of Carthage] solely from the pottery buried in these tombs."

Pottery is nevertheless of great value, even when reduced to mere shards, which were ignored in the days of such 19th century historians as Ernest Renan. "And yet," writes the French orientalist, Georges Contenau, "these humble shards buried in the ruins often tell us the precise dates of the monuments where they are found."

Burial furnishings, of course, bear witness to belief in life after death. The Carthaginians, like most ancient peoples, placed beside the body or human ashes, ceramics, pitchers, dishes, bowls, lamps, gems, earrings, rings, buckles, etc. Women's tombs often contain necklaces and bronze mirrors, but unfortunately with no ornamentation.

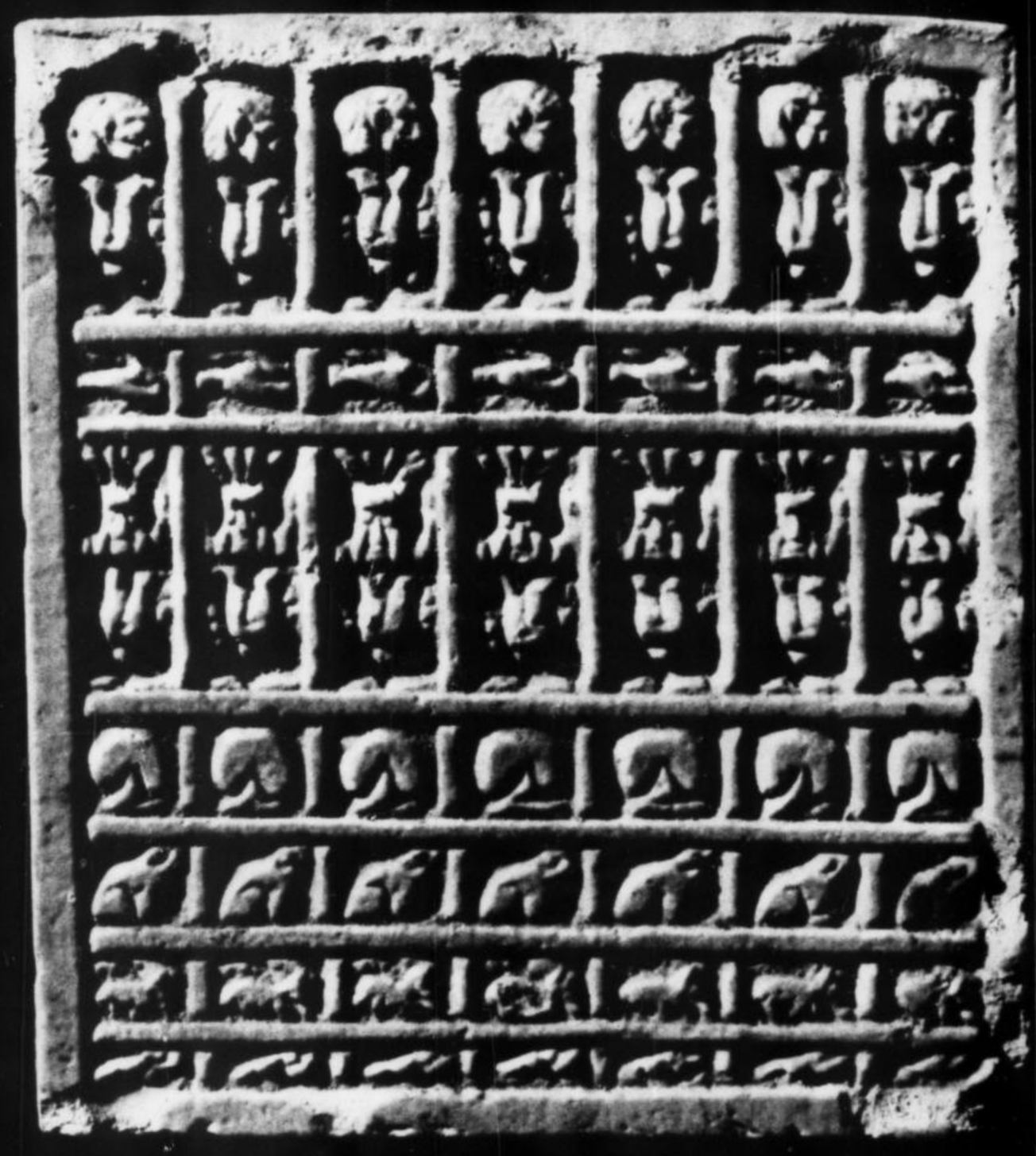
Traces of two small chapels have been found, one at Salammbo and the other near Amilcar. Although not extensive, these remains, together with the plentiful material (stelae, urns, etc.) found in the sanctuary, give us some insight into the Carthaginian religion.

Domestic architecture is less well known. Some ancient writers speak of houses with several storeys in the Punic capital. Recent excavations in the Byrsa hillside and on the shore at Gammarth have revealed traces of Carthaginian dwellings similar to those we have explored at Kerkouane, the famous Punic site on the Cap Bon peninsula.

And so with the aid of these literary, archaeological and epigraphic sources the historian seeks to reconstruct the Carthaginian past. ■

MAGIC SQUARE

Seven times seven motifs figure on this tiny Carthaginian tablet (4 cm. square) discovered in a tomb, and dating from the 3-4th century B.C. Made of limestone paste coated with green enamel, it is divided into 49 squares, with the same motif repeated seven times on each row. These are (from top): Ptah (Egyptian artisan god assimilated by Carthage); fish; Bes (Egyptian god of recreation, wearing a crown of feathers, also adopted by Carthage); water lily; frog; antelope, crocodile. Belief in the magic properties of the figure seven and its absolute multiple—symbols of harmony—is affirmed in the religions and theologies of many ancient peoples. Like the Punic masks, the square may have served as a talisman or amulet to protect the dead. A unique relic, it is now in the Carthage museum.



TANIT THE MYSTERIOUS

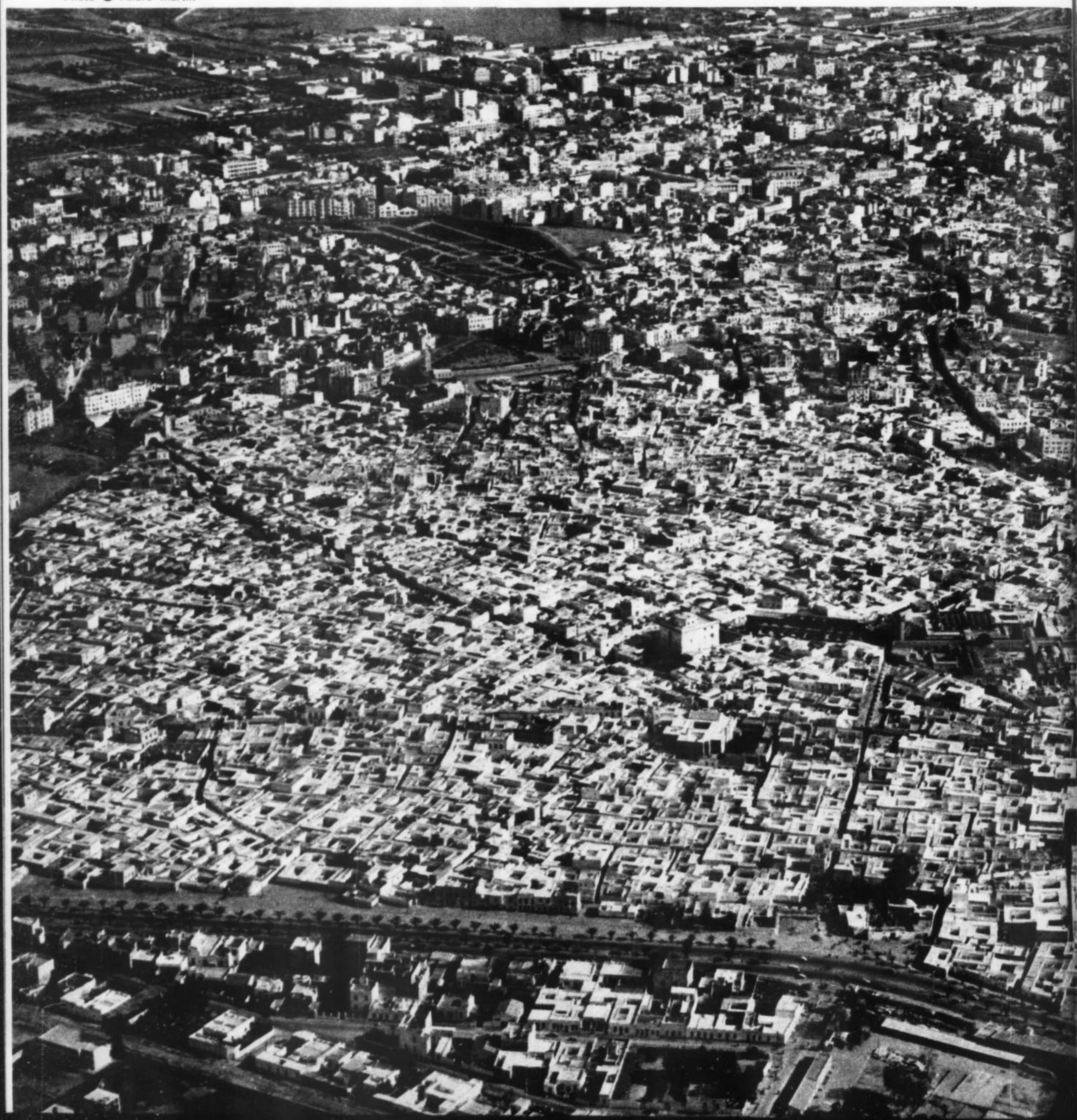
Below, the sanctuary of Tanit (4-5th century B.C.) at Salammbo, Carthage. The chief female deity of Carthage, Tanit is sometimes named "Oum" (the mother) but her origins are mysterious. She did not belong to the Phoenician pantheon, but may have been an African deity or foreign goddess assimilated by the Carthaginians. She became the Punic "Mother-goddess" —"She who gives". The stone carving in the foreground is a model of a temple, reduced to a flight of steps leading to an altar. The stele immediately behind is engraved with the "bottle sign" which is associated with Tanit. The goddess herself is always depicted in abstract form (see pages 5 and 40). Below right, a minor female deity and guardian of the sanctuary of Tanit, with lion's head and costume imitating a bird's plumage (Ist century B.C.). The deity figures on Roman coins of the time on which she is described as "Spirit of the Lands of Africa".

Photo Georges Viollon © Rapho, Paris

Photos Luc Joubert © Archaeologia Viva

This striking aerial photo shows the Medina, the old Moslem town of Tunis. With its great religious monuments, palaces, inns and markets, and its network of narrow bustling streets, the Medina is the historic heart of the capital of Tunisia.

Photo © André Martin



TUNIS—A JEWEL OF ISLAM

by Georges Fradier

TWENTY - EIGHT centuries of civilization standing layer upon layer and covering an area of barely 60 square miles: a site—Carthage ; a city—Tunis.

Carthage is a name that has fascinated the great of literature from Virgil to Flaubert, and which can be conjured up by a few brief images: the genius of Hannibal with his Numidians from northern Africa, his Gauls and his elephants, his "immortal" yet short-lived victories. Then the Romans in Africa; the aging Cato—"Delenda est Carthago" (Carthage must be destroyed). In 146 B.C. it was well and truly destroyed, its remains razed to the ground and its site declared accursed.

But economic necessity, it seems, is more powerful than a conqueror's curses. The Roman colony of Carthago, founded on the ancient site in 44 B.C., took less than a century to become a large and powerful city of 300,000 inhabitants, dealing, like its predecessor, in oil, wine and purple and importing Greek statuary.

The new Carthage was built with the Roman town-planner's geometric pattern of streets, with aqueducts and forum, apartment buildings and villas, and complete with circus, theatre, odeon, temples and baths—the famous Antonine Baths which were the most luxurious in the world outside Rome.

This was truly a city to dream of for the Italian merchants and their Punic counterparts, for the orators and scholars, the bishops and generals of the Roman colony and later for the Vandal chieftains with their own retinues of orators and bishops; and later still for the Byzantine admirals.

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Birth of a capital at the Mosque of the Olive Tree

Carthage was a city dreamed over, renewed and remodelled during the course of seven centuries. When the city was captured by Hassan Ibn Noman in 698 A.D., still arrogant and still confident in its power, Pompeii by then had slept so long in its bed of lava that it had been forgotten.

Carthage, less fortunate than Pompeii, had no volcano to wrap it in a winding-sheet to await the century of enlightenment and the scholars and students of antiquity. Like London, Trèves, Lyon, Nîmes, like Rome itself, it became little more than a quarry. But the quarrymen who filched its stones, unlike those who demolished the monuments of these European cities, built nothing upon the sites of its abandoned temples.

Hassan and his successors used its stones to build elsewhere as far away as Kairouan. Not just for one year, nor even ten, but throughout thirteen centuries they took pillars and capitals for the mosques, palaces and souks, statues to feed the lime-kilns, sarcophagi to pave the streets. None of this was done maliciously—life must go on, and this is how each wave of civilization builds upon its predecessors. However, some monuments were still standing, at times providing shelter to enemy forces. In 1270, following the crusade led by Saint Louis, the sultan, El Mostaneir, gave the order to destroy the last remains.

YET the traveller who wanders along a coast not yet seriously disfigured, climbs the partly-defaced hills and threads his way between the villas and their tiny gardens still comes face to face with the old Carthage. For here and there a few columns still point to the skies, marble and mosaics peep out from the grass, and overthrown buildings, whose buried walls lie flush to the ground, seem to thrust upwards, piercing through sand and rubble, a bleak reminder of the once orderly plan of the ancient city.

The hill of Byrsa, on which stood the fortress-sanctuary, last refuge of the Punic gods and their defenders, has never been explored. The bare spaces, still awaiting excavation, cover more than 370 hectares (900 acres).

Like a newly deciphered language, ancient Carthage could be re-discovered, restored to life, given new meaning and depth. But first, those who love Carthage and who are responsible for the city will need the means and determination to resist the invasion of the villa constructors before it is too late, before the population squeeze and housing boom have covered everything with a thick coat of plaster. They will need the help of administrative and legal measures no less than financial resources. But once they have the legal powers, there is little doubt that the funds they need will be forthcoming.

It may seem strange that an article dealing with cultural rescue should be concerned with both an ancient, annihilated city and a strongly flourishing, exuberant capital. Carthage finally perished in giving birth to Tunis, but the heart of Tunis is threatened by a superabundance of life. Only cities whom history has passed by escape this paradoxical fate. But Tunis simmers with history in the making. The administrative, industrial, commercial and tourist centre of a country of five million inhabitants, Tunis is experiencing a period of great expansion and, as we say of teenagers, is suffering from growing pains.

IN 1925, Tunis had a population of 186,000—in 1966, 470,000. But for some years now the directors of the urban development plan have been aware that it would be pointless to consider the city alone without planning for the surrounding communities of the residential suburb near the sea. Four years ago this "Greater Tunis" had a population of nearly 800,000 and by the end of the century it is estimated that it will have risen to two million.

Yet these figures fail to tell the whole story. Although they indicate a rate of growth that to some must appear colossal, they reveal nothing of the fundamental aspects of this urban growth. Yet even a brief outline of the history of the city provides a glimpse of these aspects. It gives us an idea of the pressures and imperatives, the interplay of poverty and development, the dangers of routine solutions and the horizons that can be opened up by clear-sighted decisions.

At the foot of a small hillock, on a narrow strip of land between a marsh and the big lake which separates it from the sea, lay a small village as old as time. It was this country marketplace and caravan crossroads that Hassan and his successors chose first as the setting for the Djama Zitouna, or mosque of the olive-tree, and then as the site of a town.

From this great house of prayer a river of brick and stone spread out to the north, the south, the west and the south-west, spawning market streets, great men's houses, hostelries, cisterns, wells, warehouses, workshops, schools, sepulchres, gardens. Two suburbs, protected by ramparts linked to the fortress that soon came to overshadow the great mosque, offered a welcome to caravans and farmers.

The domes and square minarets (later to be replaced by fine octagonal towers) of other mosques reared their heads to the sky. The bright terraces of the closely-huddled houses looked out to sea or over the sacred hills, shielding the patios of these vast, secretive dwellings which, from century to century, retained the inward-looking Roman style as adapted by Moslem Egypt.

The history of Tunis, as one discovers with relief, is less a saga of generals, of messianic dictators, of sheiks, deys and beys, than a fairy tale for architects. It is the history of the slow growth of a hive, the patient multiplication of honeycomb cells, intermingled and interdependent like the cells of a living organism. There were, of course, enough party rivalries, sieges, brawls and free-for-alls to satisfy connoisseurs of old style drama, if any still exist. But the impression remains that the real history of Tunis, of the Medina of Tunis, wisely placed in the hands of the builders and confined to the 760 acres within its walls, unfolded over eleven hundred years quite apart from these colourful but trivial occurrences.

It is true that this capital of theologians, jurists, craftsmen and merchants, peaceful by inclination and by repute, did not entirely escape the hand of violence. In about 1050 came the invasion of the Beni Hilal Bedouins, let loose, according to the historian Ibn Khaldoun, like a swarm of voracious

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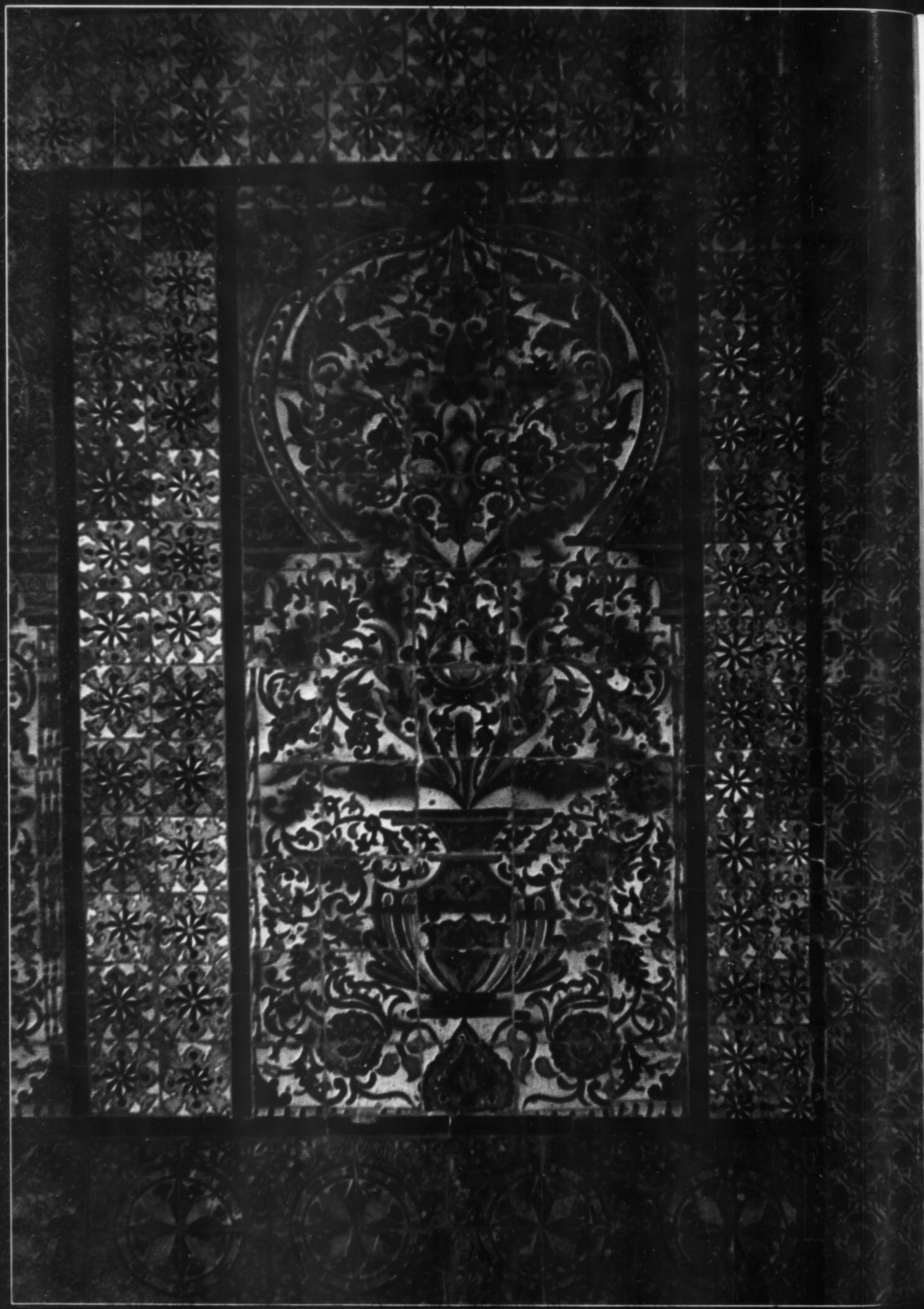
PLEASURES OF THE CHASE

Hunting is a recurring theme in Carthaginian mosaics of the Roman period. In the 2nd century A.D., influenced by emperor Hadrian's passion for hunting wild beasts, the sport became the favourite pastime of the Roman aristocracy. Above right, fragment of a hunting scene from a 5th century Carthaginian mosaic. Below right, a perfectly preserved 6th century mosaic baptismal font decorated with hunting scenes. Dedicated to Saint Cyprian, one of the fathers of the Christian church who lived in the 3rd century, it indicates that hunting had been taken up by the Christians of Carthage.

Bardo Museum, Tunis
Photos © Luc Joubert

SCOLDATISSIMO E GRIMANO
CAVINYSELFRA LUMBENSIS
VNITED TO GETHER



The Medina: 11 centuries of architectural splendour

locusts by the Caliph of Egypt. And three centuries later came the occupation by the Merinids, another nomadic tribe, this time from Algeria.

Then, in 1534, followed Khairad-Din Barbarossa's Turkish soldiers, systematic pillagers like Charles V's Spanish soldiery a year later. The end of the 17th and the beginning of the 18th centuries saw further Algerian incursions, but these were less serious and more quickly forgotten.

All in all there was little destruction, no vengeful sacking, sacrilegious demolition or fanatical incendiarism. Warfare, generally the repercussion of the wars of other nations, periodically halted, for brief periods, the city's growth and embellishment. After these intervals, masons, carpenters, sculptors, tilers, plasterers and glass-blowers resumed their toil.

Almost all their works are there, and in this town, still shut in by its invisible walls (the vanished ramparts still leave their imprint on the boulevards), the shortest walk becomes an endless pilgrimage through street and alley, souk and cul-de-sac, leading not only to palaces and places of worship (or even to mere facades and arches or the pure volumes of the skyline), but also to the very vision of their builders who seem close at hand and ready to welcome the visitor.

Yet if, today, it were suddenly to be announced that bulldozers were ready to raze these wonders to the ground, it would surprise but few; too many examples can be quoted of European cities, once the cradles of art, that are being openly destroyed at this very moment by hard-headed building promoters, deaf to the helpless cry of "culture", to be replaced by their mediocre modernism.

Indeed, some enthusiasts for Public Works have already put forward plans for the disembowelling of Tunis, pointing to the traffic problem, which this kind of surgery would anyway do little to solve. The good sense of the local authorities has restrained them. However, words such as "pilgrimage", "visitor". "enclosed city", deliberately used above, hint at another kind of danger. Is the Medina of Tunis then no longer a town like any other? Is it reserved for the curiosity seeker? What has happened?

In about 1860, the Christian European merchants, whose "fondouks" (warehouses) had crowded in upon each other over two centuries in the lower part of the town near the sea gate, also called the Porte de France, moved out and installed their warehouses and dwellings outside the town walls. They settled themselves in an agreeable disorder that was harmless enough, yet which heralded the great transformation of Tunis and, it has been said in moments of pessimism, the end of eleven centuries of peaceful history.

Twenty years later came the French Protectorate. But it was not destruc-

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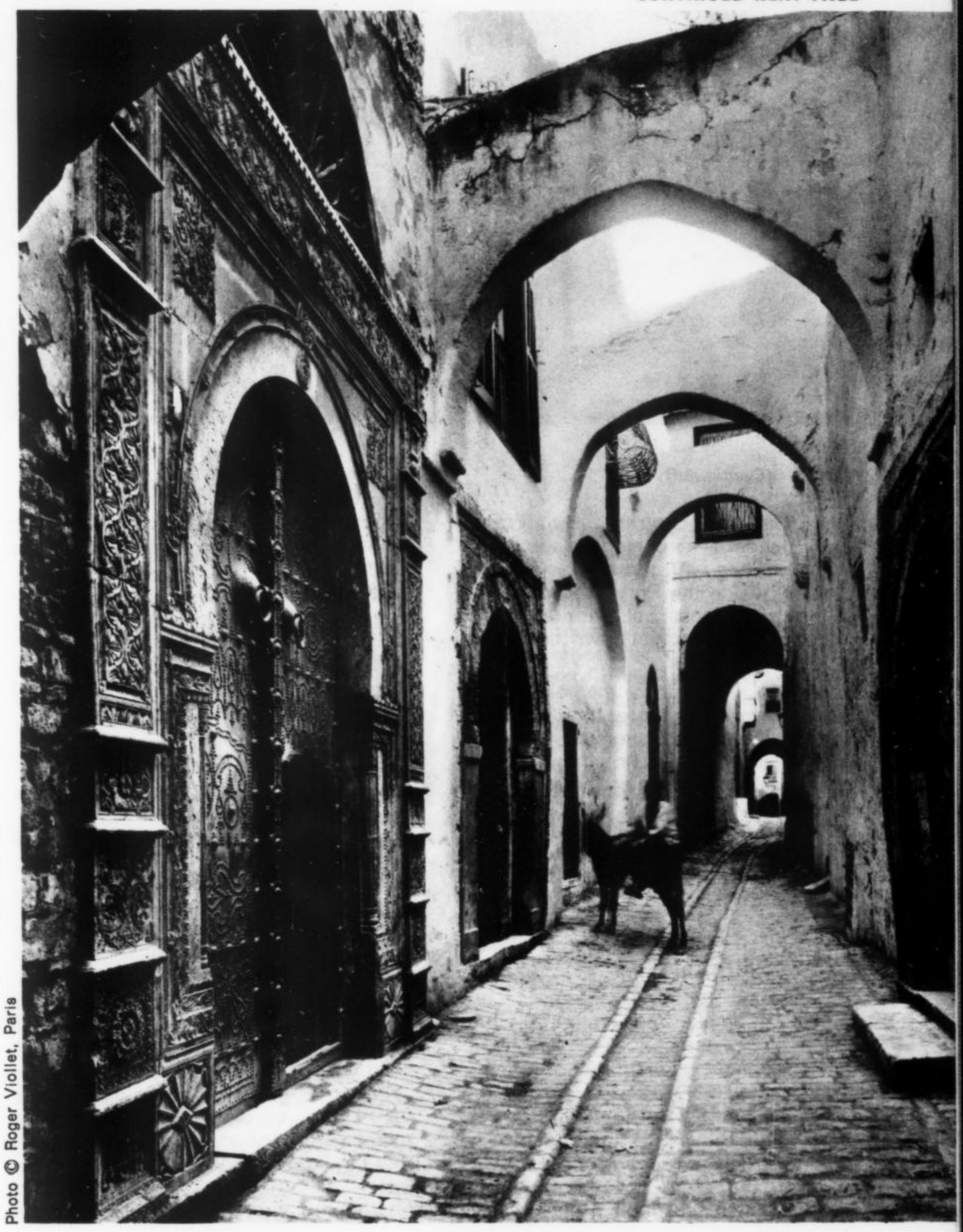

Photo © Roger Viollet, Paris

FLORAL GEOMETRY

Complicated floral decorations (left) are a motif typical of Tunisian faience and are to be seen on many of the walls of Tunis's Dar Hussein palace, built in the 19th century. Today the palace houses the National Institute of Archaeology and the Arts, and the Arab-Islam Museum. For long merely a suburb of Carthage, ancient Tunis became the capital after the Arab conquest in the 7th century A.D. The old quarter contains a multitude of art and architectural treasures. From Babylon the art of faience spread to Persia and was taken up by the Arabs who carried it to North Africa and the West. To this day it provides a vehicle for some of the most delicate decorative work in Arab-Islamic art.

Photo © Magnum - Inge Morath

Right, a delicately carved doorway to an ancient mansion in the Medina of Tunis, one of the many treasures of Islamic art and architecture of this city within a city.

MAGIC SYMBOLS THAT ENDURE

Photos © Luc Joubert

Photo © André Martin

The mother goddess Tanit finally displaced Ba'al Hammon as undisputed head of the Carthaginian pantheon towards the middle of the 4th century B.C. On stelae erected in sanctuaries dedicated to her, two of the signs used to symbolize the divine presence are the open hand with outward facing palm (top of photo left), and, (centre photo) the "sign of the bottle" surmounted by a crescent with tips turned downwards (see also page 33). The modern Tunisian ornamental clasp (below) incorporates both the crescent and the open hand and signifies good luck. Today in much of the Mediterranean world this motif is known as "the hand of Fatima" and demonstrates how ancient magical symbols persist although their religious significance may have long been forgotten.

TUNIS *(Continued)*

tive. On the contrary, the French were builders—and modernistic builders. Starting with the scattered warehouses beside the Porte, the colonists, at no great cost but with a certain pride, built a colonial town conceived in grandiose style.

Facing away from the old Tunis, henceforward no more than an Arab quarter, the straight avenues, the right-angled streets, the plain chequer-board of the military camp of the new town spread out beside the lake. Year by year new administrative buildings, banks, houses, shops, apartment houses, cafés, hotels, theatres and cinemas were added.

In 1970, the lake is still not entirely surrounded and the avenues stretch out to north and south, a skyscraper has sprung up, new centres are appearing, smoke rises from a few factories and a multi-storey hotel dominates a cluster of luxurious villas.

The hotel also overlooks, on the other side, a newly built and regrettable shanty-town, but this subtracts nothing from the charm of Tunis, a modern "European" city that no one would wish to find fault with. In fact, it has a great deal of charm, like 19th century Milan or the suburbs of Toulouse.

But in thus displacing the administrative and business centre, in changing radically the criteria of modern urban life, in giving a new orientation to its evolution, the heart of the town has been unwittingly drained of life.

THE Medina held out for some time. Retaining its intellectual prestige it remains, indeed, the religious centre. But most of its leading citizens, the descendants of great families, have left their palaces which brought life to whole sections of the town, and have rented them to the impoverished migrants who come from the country districts, in an unending stream, lured by the mirage of the capital.

Far away in their modern apartments they have no inclination to bother themselves with the dirt of the slums that have developed under their ancestral roofs. And no doubt they have no time to worry about this constant influx or about the occasional exploitation of these landless peasants or the crowds of unemployed.

Luckily there are others who are concerned about this trend, who realize that the Medina of Tunis is one of the finest in North Africa—which means one of the finest in the world—and that it provides an example of an astounding continuity of architectural development, the unsullied fruit of eleven hundred years of creation.

Above all, they know that with its suburbs, despite the defection of some wealthier citizens, despite abuses and indifference, it retains a highly original life, a captivating mixture of tradition and adaptation to the present age.

Knowing all this, these Tunisians who are now responsible for their town have refused to accept the role of placid defenders of "old stones", content to restore a few monuments here and there and to turn a district or two into museums and empty shells. This would be a cheap way to appease their consciences.

They understand clearly that they will have to take care of the whole Medina in its relationship to the capi-

Photo Georges Viollon © Rapho, Paris

A Tunisian jeweller at work. Handicrafts remain an important factor in Tunisian life; some 16,000 to 20,000 craftsmen and artisans keep alive the old skills and traditions which have been handed down for generations.

tal as a whole: Tunis and its suburbs. The dangers which beset the historic heritage and which are sapping it from within arise from social and economic, from human causes which are just the ones that any urban development programme worthy of the name should tackle.

If these causes are forgotten, the Medina, behind its austere facades, will house nothing but shanties, famous schools debased, mausoleums transformed into cattle-sheds, while at the same time Carthage will be covered with motorways, with villas for middle-class executives, with tourist "palaces" and supermarkets. This would, without doubt, be the easy solution.

It is a solution that must be rejected. And perhaps such crimes will never be committed. In 1969, prompted by the Association for the Protection of the Medina and the National Institute of Archaeology and the Arts, the Tunisian government launched a pilot project for the safeguarding and restoration of the country's heritage of monuments in the Tunis-Carthage region as part of its plans for economic development, and asked for help from Unesco under the United Nations Development Programme. Final approval of the scheme by the UNDP is expected in January 1971.

The resources in men and materials to be deployed would be derisory if the intention were to excavate the site of Carthage and to put its ruins on display in a fitting manner, or to buy up the palaces in danger in the Medina and restore their woodwork, marble and stucco facings.

However, the immediate objective is less spectacular yet no less ambitious. A team made up of international experts and representatives of UNDP and Unesco, will first study and analyse the problems of Tunis and Carthage—in economic as much as in archaeological terms—and propose the best solutions and an order of priority for the work of restoration.

Under the auspices of an inter-ministerial committee, the team has a priority task to provide the Tunisian authorities with a scientifically based plan for coherent and co-ordinated urban development of the region. It is only within this context that one can hope, and there is already ground for hope, that generous international aid will be forthcoming for the safeguarding and restoration of the monuments and sites.

A few months ago, a leading town-planning specialist wrote in a French newspaper: "Paris is in danger. She seems to be following a path of self destruction, destroying those very facets that give her her character and value. No one, it seems, is aware of the danger and nothing is yet being done to halt the process."

Other newspapers in Europe and elsewhere could equally bewail the lot of many other cities. It would indeed be a great achievement if Tunis, the capital of a country in which the annual revenue does not exceed 100 dollars per head, should give the lead that reason demands; should give the lead because its leaders have become aware in time of the destructive process of haphazard urban development and because its lovers of history and archaeology have quickly and clearly grasped the fact that in order to safeguard stones one must first see to the needs of men and women. ■

EIGHT CENTURIES OF CARTHAGINIAN CIVILIZATION

(Continued from page 20)

The tophet filled up with monuments which were miniature reproductions of some of the buildings (all now vanished) of the city as it existed then—small Egyptian-style temples, chapels rising above a high stairway before which stood altars on which perfumes were placed.

The kings set an example of piety, indeed even of fanaticism. Two of them, Hamilcar in 480 B.C. and Himilco in 396 B.C. made ritual sacrifices of themselves to expiate defeats. During the Sicilian wars, many human victims, especially prisoners, were sacrificed to Ba'al Hammon and other gods. Some of these princes, like Hannibal, the son of Gisco, who reigned in 409 B.C., were animated by a racial and religious hatred of the Greeks.

But these hard, intolerant men possessed savage energy and were driven by a patriotic fervour. They made their country the greatest power in the western Mediterranean and mistress of an empire as extensive and as rich as the empire being built at the same time by Athens in the Aegean.

Fortune did not always favour them. During an initial phase, between 550 and 480 B.C., Carthage gained mastery of Sardinia, destroying in the process the local civilization to which we owe the nuraghs and some fine small bronzes (see "Unesco Courier", September 1966). The Phoenician cities of Sicily and Spain accepted its hegemony. A Punic colony established in the Etruscan city of Caere (Cervetri, 60 kilometres north of Rome) and in the port of Pyrgi played a leading role in local political affairs. When Rome freed itself from the Etruscans, in 509 B.C., its first concern was to conclude a treaty of alliance with Carthage.

In both the east and the west, however, the dynamic expansion of Hellenism was in evidence. At the beginning of the 5th century the great kings of Persia, Darius and Xerxes, resolved to crush it. It is quite probable that Hamilcar, the Magonid ruler of Carthage, concerted his action with theirs. But the Persian and Punic armadas were both annihilated, the latter at Himera, Sicily, according to tradition on the same day as the Persian defeat at Salamis.

Carthage then turned away from the world and retired within itself for seventy years but only to renew its strength by once more altering the bases of its power. King Hanno the Great first wrested from the Libyans a territory vaster than that held by any other Mediterranean city: the north-eastern half of present-day Tunisia as far as a line drawn from Sfax to Tabarga.

This task scarcely completed, he launched ambitious maritime expeditions to ensure control over the trade with the far west which had given birth to Carthage, but whose most effective guardians until then had been the Phoenicians of Spain.

While Carthage was growing ever stronger Greece was being torn by the Peloponnesian war, and in 409 B.C. Hanno's successors judged the time ripe to take revenge for Himera. A savage lightning attack destroyed Selinonte and Agrigento, but the Punic offensive ground to a halt before Syracuse. A bloody and exhausting struggle ensued with neither side able to seize a decisive advantage. War-weariness spread in Carthage and a growing faction began to oppose the war and the dynasty that was conducting it. In about 370 B.C. this faction finally wrested control from the last of the Magonids.

The aristocratic regime that was to rule Carthage until the end of the first war against Rome gradually became established, although not without some setbacks. The nature of this regime is known to us thanks to an analysis of it made by Aristotle in about 330 B.C. Real power was in the hands of com-

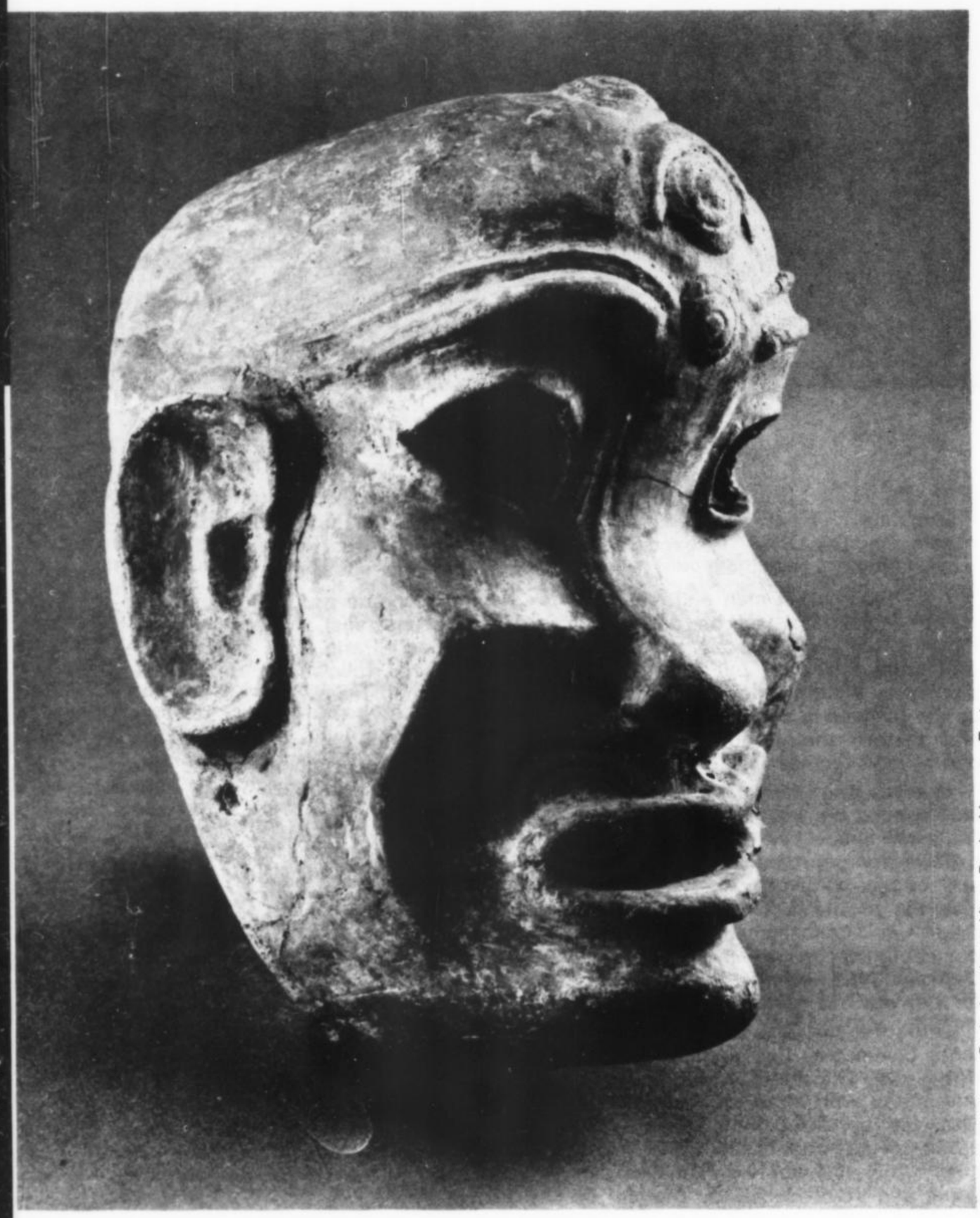

Photo Luc Joubert © Archaeologia Viva Bardo Museum, Tunis

This mask is more than 2,500 years old. It dates from the Magonid dynasty of Carthaginian history (6th-5th centuries B.C.) which marks the zenith of the manufacture of pottery masks. Masks like this one, with lips drawn back in a sardonic grin, were used in many religious ceremonies in Carthage.
(See also colour photo, p. 24)

National Museum, Beirut Photo © Jean Mazel

WESTWARD HO!

These slender little terracotta figures wearing high peaked bonnets depict the ancestors of the Carthaginians. Dating from the 12th century B.C., the statuettes were unearthed from the ruins of a temple at Byblos, the chief city of Phoenicia until about 1200 B.C., when its prosperity as a trading centre declined and passed to the Phoenician port of Tyre. Thus, at the time when a sculptor of Byblos was modelling these figures of his contemporaries, the navigators of Tyre were setting out westwards to explore the whole of the Mediterranean as far as the Iberian peninsula and the western tip of North Africa.

mittees of nobles and above all lay with the notorious Tribunal of the One Hundred and Four which mercilessly eliminated anyone suspected of wishing to re-establish personal rule as well as those accused of treachery or incompetence.

So close were the links between religion and royalty that the revolution was inevitably accompanied by religious reform. From the end of the 5th century a hitherto obscure goddess began to appear at the side of Ba'al Hammon. She was to become the "Lady of Carthage" and even took precedence over her fellow deity. Tanit reigned over the heavens and especially over the moon. She granted the gift of fertility and watched over the sleep of the dead. Less cruel than Ba'al Hammon, she may be likened to the Greek Hera or the Roman Juno.

One of the reasons for her climb to ascendancy was undoubtedly the desire of many Carthaginians to bring their religion more into line with those practised in Sicily and southern Italy where Mother Goddesses played an important role. In 396 B.C. they even introduced officially into Carthage the Greek corn goddesses Demeter and Kore, who in their mysteries taught their worshippers how to avoid the snares of the next world.

The decorations found on the stelae in the tophet give some idea of the intensity and complexity of religious activity in Carthage during the 4th century B.C. The most frequently recurring symbols, such as the "sign of Tanit", a triangle surmounted by a bar and a circle, express with geometric austerity the ineffable power of the divinity.

Carthage reached the height of its prosperity around the year 300 B.C. Greek influence was on the decline in Sicily and Italy. In the east, Alexander's successors, who had planned to add all Africa to his empire, wasted their energies by quarrelling among themselves.

The Carthaginians managed to establish friendly relations with one of the Diadochi (the generals who succeeded Alexander)—the Lagide dynasty which ruled in Egypt and in old Phoenicia, now almost completely hellenized. Whilst retaining their own language and culture, they readily accepted the new thought and art forms born of the marriage of Greek culture and the old civilizations of the Nile, of Syria and Asia Minor, and propagated them in the west.

Meanwhile, during the second half of the 4th century B.C., Italy had witnessed an extraordinary political development. Within a few decades, a

CONTINUED NEXT PAGE

The death of two cities

city hitherto of scant importance, backward in its economic and cultural life, had subjugated both the ancient civilized peoples of Etruria, Campania and Graecia Magna and the half-savage tribes of the Apennines.

The Punic government had not considered that the sudden rise of Rome constituted a danger; nor can it be accused of lack of foresight. The new agricultural and military state had no apparent reason to quarrel with the great trading and maritime republic with which, indeed, it was linked by a long tradition of friendship sanctioned by many treaties.

But the Italian confederation included associates, more advanced than Rome itself, who sought compensation for the restriction of their independence in the profits their trade and industry might gain from their association with the most redoubtable military power of the age.

These were the Campanians whose chief city was Capua. They belonged to the Oscan nation, related to the Latins, a few of whose tribes had tried to infiltrate into Sicily as far back as the 4th century. B.C.

The Campanians had inveigled some of the more adventurous of the Roman senatorial families, such as the Claudii, into joining them in their enterprise. This Romano-Campanian party sided with a band of Campanian pillagers who had treacherously seized Messina and whom the Greeks and Carthaginians sought by common consent to neutralize. It was thus that, in 264 B.C., a few intriguers and the interplay of somewhat shady interests sparked off a conflict which was to decide the fate of the entire Mediterranean and bring Carthage to ruin.

THE war, which like the Romans, we term the First Punic War, was to show that the Punic oligarchy, similar in many respects to the parliamentary regimes of the 19th century, was incapable of sustaining a long struggle.

During the very first years the Roman legions easily proved themselves superior to the Carthaginian mercenaries by conquering almost all of Sicily. The Roman fleet also soon showed itself to be a match for its rival. At first sight this appears astonishing; but although the Romans had no naval tradition, they had at their disposal the shipyards and the seamen of the Greek cities in Italy.

However, the Campanian Regulus' attempt to gain a foothold in Africa ended in complete disaster and most of the Punic strongholds held out, even in Sicily. What really decided the defeat of Carthage after more than twenty years of war (241 B.C.) was the breakdown of its economy, the timidity of its diplomacy and the impotence of a command paralyzed by the terror that the One Hundred and Four held for the generals.

The ruling class was responsible and it paid dearly for its errors. It was nearly swept away by a social revolution led by the under-paid demobilized mercenaries who carried with them the Libyan peasant proletariat, for long ruthlessly exploited by the great landowners.

The republic owed its salvation to Hamilcar Barca, a young general who had distinguished himself as a commando leader during the war in Sicily. But he had no intention of restoring a regime which he rightly held responsible for the defeat. Instead, Hamilcar built up an independent power in Spain, sufficiently far away as not to be hampered, at least in the early stages, by the surveillance of the Roman Senate.

When he perished in 228 B.C., he left his son-in-law Hasdrubal and his sons a kingdom of which the Barcids became the sovereigns, a treasury supplied by the inexhaustible mines of the sierras and a seasoned army entirely loyal to its leaders.

Hannibal, who was to inherit these resources less than ten years later, after the murder of his brother-in-law, had perfected his father's plan which really aimed at taking revenge on Rome.

He was extremely well informed about internal politics in Italy. He knew that the Greeks and Campanians, after benefiting handsomely from the victory that had opened up for them the markets of the entire western Mediterranean, were becoming apprehensive about Latium's economic progress and the greed of Roman businessmen. They would gladly have withdrawn from the partnership if they had been able to do so without risk. Their defection would deprive Rome of its naval strength and render it powerless outside Italy.

The legions had to be neutralized if this defection was to be brought about. This Hannibal proposed to do by using the formidable manpower resources of the Celtic world as a battering ram. Every part of the plan fitted logically into place, including the seemingly romantic escapade that was to lead the young Barcid with his Spanish-African army and his elephants through the Pyrenees, across the Rhone and beyond the Alps (219 B.C.).

Why the great plan failed after coming so close to realization within a bare three years cannot be explained here. After his victory at Cannae, Capua opened its gates to him (216 B.C.), but the Italian confederation held together. Meanwhile Spain, which had been quickly conquered by the Barcids,. fell just as quickly into the hands of the Scipios.

Perhaps the situation could have been saved with the assistance of the Greeks if the kings of Macedonia and Syria had been more far-seeing and decisive. Once these opportunities were missed the outcome was inevitable—Rome's patient re-conquest of Italy, Scipio's successful landing in Africa, and Carthage compelled to accept the victor's terms after the battle of Zama (202 B.C.).

Contrary to what is often believed, these terms were relatively mild. Scipio and the majority of the Senate wanted to confine Carthage to Africa and to make it, once and for all, subject to Rome; they did not want to destroy Carthage. It was not until about 170 B.C. that Cato and his party managed to impose the idea that the destruction of Carthage was essential to Roman policy.

MANY explanations for this sudden change of attitude have been advanced. In my opinion it was due to the internal political situation in Carthage. Ever since Hamilcar Barca had restored power to the people, the city had moved steadily towards a more and more progressive form of democracy.

Hannibal himself had contributed to this evolution when, after Zama, he attempted to govern his country for a while. But at this stage in its history, Rome could not tolerate the emergence anywhere of popular regimes capable of disturbing the very harsh social system which, directly or indirectly, produced enormous profits for its ruling classes. The Senate destroyed Corinth and Carthage in the same year (146 B.C.) because they had become hotbeds of revolution.

Such is the picture that we have of the often obscure and sometimes paradoxical destiny of this Asiatic city clinging to the shores of Africa. So much tenacity, such extraordinary capacity for adaptation; were they expended for nothing? It could easily be shown that Carthage, whose language and civilization did not finally die out until the 4th century A.D., continued to play an important role in the Roman empire that destroyed it.

Its heritage has been passed on elsewhere too—to the Berbers who had been pupils as well as subjects and, through them, some part has doubtless been handed down to present-day Tunisia, now more than ever confirmed in its role as bridge between the Moslem east and the Christian west. ■

JEAN PERRIN

A PIONEER OF MODERN PHYSICS

by Pierre Auger

THE final years of the 19th century and the first decades of the 20th were marked by tremendous advances of knowledge in the world of physics. Radioactivity, the electron, energy quanta, relativity and the atomic nucleus came upon the scene, in turn opening up new areas of science each of which alone could have constituted a new and distinct discipline.

Jean Perrin, the French physicist whose centenary is being commemorated this year, played a leading role in this remarkable development.

It was Perrin who, at the turn of the century, demonstrated the particle nature of cathode rays, identifying them as the elementary carriers of the negative charge, in other words, as the electrons that have revolutionized all branches of industry and communications.

This discovery was remarkable for two reasons; it was made by a young, twenty-five year old scientist, who had just completed his university studies; it settled a debate that had divided the great physicists of the day for over ten years.

The demonstration of the particle nature of electricity, "the atoms of the electric charge", led Jean Perrin to undertake an even more extensive investigation, this time a study of the atoms constituting all matter.

Prior to Perrin's work physicists spoke of the atomic *hypothesis* and the kinetic *theory* of gases; after it there remained no doubt as to the real existence of atoms, so convincing was his demonstration.

He started from the notion, held by Boltzmann, Maxwell and Van der Waals, that all individual particles of matter contained in a fluid must be subject to the same laws of energy, whether they be atoms, molecules or grains of emulsion. It was merely a question of a change of scale, but the kinetic energies would be the same and consequently the same laws of motion would hold good.

One particular case was that of the Brownian movement which can be detected even with a student's microscope when observing mushroom spores floating in water. By a vast change of scale, amounting to a factor of sixty million, it was possible to compare the distribution of emulsion grains over a height of a tenth of a millimetre with that of molecules of air up to an altitude of six kilometres.

Measurements with the microscope thus made possible the calculation of the number of molecules contained in a litre of air. In fact, what Jean Perrin was thus to measure directly for the first time was what we now know as Avogadro's number—the number of molecules in a gramme-molecule (for example, two grammes of hydrogen)—and which has a value of approximately six hundred thousand million million million.

Perrin turned his attention to the investigation of several other atomic and molecular phenomena, demonstrating, for example, the existence of layers a single molecule thick in the thin films of soap bubbles and surface coatings on water. He published numerous papers on fluorescence, surface electrification and colloids in which he repeatedly demonstrated his powerful imaginative capacity and his great talent as an experimenter.

His ideas were often much ahead of his time—he proposed a planetary model of the atom as early as 1901 and, in 1921, he postulated that the energy of the stars resulted from thermonuclear reaction.

Endowed with great personal magnetism, he was able, as professor and laboratory director, to inspire many students to take up research careers.

Jean Perrin's brilliant scientific work earned him the Nobel Prize for physics in 1926, but it was not his only claim to the recognition of those concerned with pushing back the frontiers of knowledge. His vigorous and skilful campaign led to the creation before the Second World War of the French Centre National de la Recherche Scientifique which was to serve as a model for other countries. He was also responsible for the foundation of the Palais de la Découverte in Paris, which has become an effective centre for the popularization of science.

Believing that science was the result of contributions from all sources, and therefore the common property of mankind, he strove throughout his life, with truly democratic purpose, to make science accessible to all and to promote its advancement for the good of all. ■

PIERRE AUGER *is head of the permanent committee for the creation of an International Scientific Foundation. The committee is being set up with Unesco's assistance. A leading French physicist, he was formerly Director-General of the European Space Research Organization, which he helped to set up, and President of the International Computation Centre, Rome. From 1948 to 1959 Professor Auger was Director of Unesco's Department of Natural Sciences. Among his books is an important work published by Unesco, "Current Trends in Scientific Research" (3rd edition, Unesco, Paris, 33/-, $6.75, hard cover).*

UNESCO NEWSROOM

German help for Borobudur

The Federal Republic of Germany is to contribute over half a million dollars towards the restoration of the 1,100 year old Buddhist temple of Borobudur in Indonesia. This represents the first gift in a plan for the restoration and tourist development of the site with Unesco's help. Total cost is estimated at 5.5 million dollars for restoration and between 2 and 3 million dollars for the development of the site, of which Indonesia will provide 1 million dollars.

Unesco tribute to Maria Montessori

Unesco recently commemorated the centenary of the birth of Maria Montessori, the distinguished Italian educator. During a ceremony at Unesco headquarters on October 30, M. Atilio Dell'Oro Maini, President of Unesco's General Conference, then meeting in Paris, and other speakers paid tribute to the work of Maria Montessori whose teachlng methods and materials have been incorporated into many modern educational systems.

TV violence and the teenager

A 3-year survey into the effects of TV violence on the adolescent boy is being made by the Survey Research Centre of the London School of Economics. It will make comparative studies on two representative groups of 1,000 boys each—one group having seen a great deal of TV violence, the other, relatively little. A major problem for the researchers is to assemble a representative control group of children who have seen little television.

World watch on air pollution

An international network for the monitoring and study of air pollution set up by the World Health Organization will operate from next month. Two international centres, London and Washington, three regional centres, Moscow, Nagpur and Tokyo, and twenty laboratories in various parts of the world, will report on levels of air pollution due to sulphur dioxide and dust particles, making it possible to observe and compare trends in various countries and to issue warnings where necessary.

Boosting cholera control

The first WHO sponsored cholera control courses for health officials from English-speaking and French speaking African countries were recently held respectively in Ibadan, Nigeria, and Bobo-Dioulasso, Upper Volta. They were run by "flying faculties" sent by the WHO Regional Office for Africa, in Brazzaville.

1,000 Unesco fellowships awarded annually

Well over 1,000 men and women every year travel abroad under a Unesco fellowship scheme for raising educational standards, spreading specialized skills and promoting understanding of other cultures. The fellowships cover training in education, science, the social sciences, culture, the creative arts and communications. In 1970 nearly a quarter of the participants have been women. Some 12,000 fellowships have been awarded since the scheme began in 1948.

Antidote to heat pollution

Heat pollution of lakes and rivers by water released from electric power plants could be eliminated by air-cooling systems utilizing large fans blowing over finned tubes to replace conventional water cooling towers. This design change, says Professor J.T. Davies of Birmingham University, in a recent report on trends in engineering research prepared for Unesco, would also free electric power plants from their present dependence on large supplies of water.

Israel's summer science school

Ninety-one teenagers from Europe and the U.S. recently joined Israeli students in a seven week programme of scientific exploration and cultural experience at the second annual Science Summer Institute for High School Students, at the Weizmann Institute of Science, Israel. The students studied biology, chemistry, physics and mathematics, including computer programming, under the guidance of Israeli specialists.

Flashes...

■ *One person out of every four in Taiwan is a student. Ninety-eight per cent of all school-age children in Taiwan are attending school.*

■ *Unesco recently sent two missions to Cambodia to supervise the protection of cultural property and the storage of valuable exhibits from Cambodian museums.*

■ *Most Japanese who live to be more than 90 are cheerful by nature and continued to work late in their career reports a survey by Japan's Health and Welfare Ministry.*

■ *Ten million dollars allocated to the World Food Programme for emergency relief in 1970 had been exhausted by July, by which time the programme had faced 11 emergency situations and had extended four previous operations.*

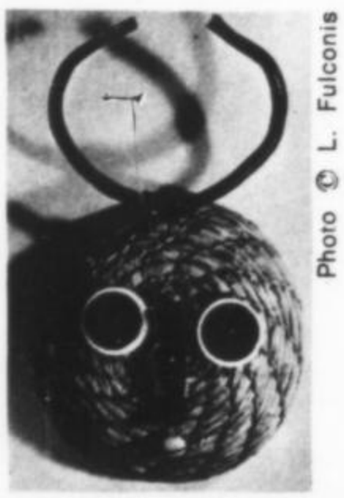

Photo © L. Fulconis

The world behind a mask

The photographs published in our October 1970 issue (Exploring the World behind a Mask, page 27) illustrating an educational experiment by the Cantini Museum, Marseilles and schools in southern France, were taken by Mr Louis Fulconis, of the Centre de Documentation Pédagogique, in Marseilles.

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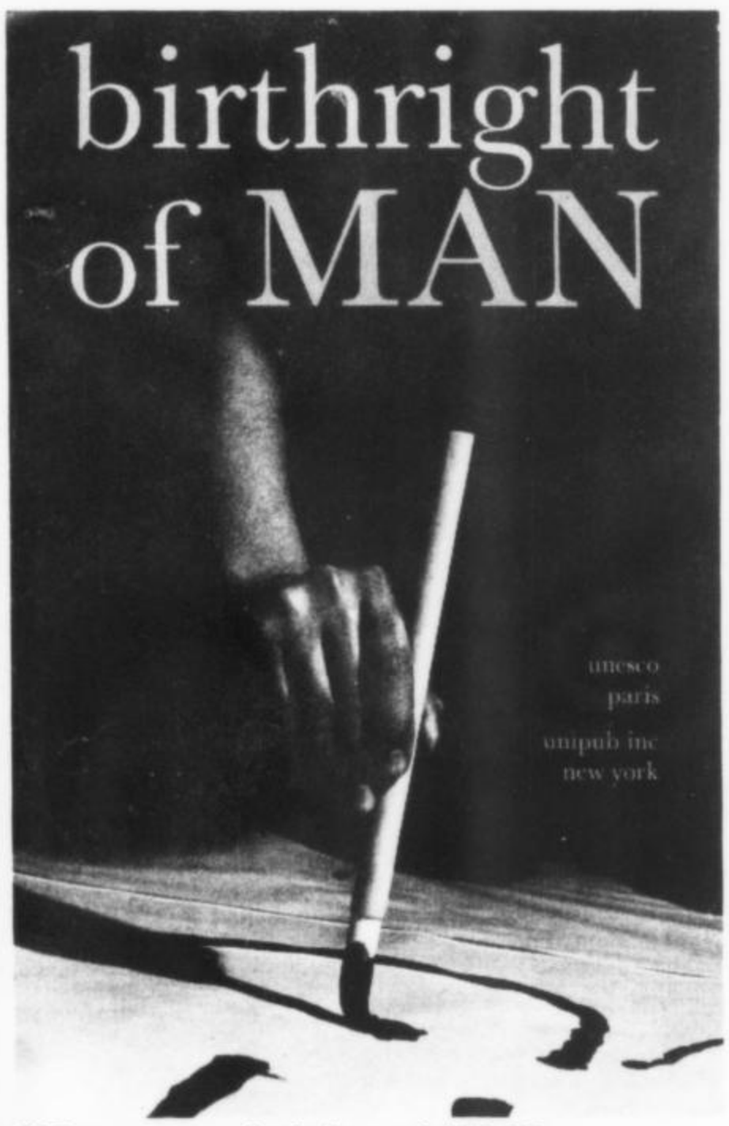

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SPLENDOURS OF TUNIS

The Medina of Tunis with its mosques, markets, inns and dwellings is a treasure house of Islamic art and architecture encompassing a period of more than 11 centuries. Unesco and the Tunisian Government are embarking on a vast programme for the preservation of the Medina and its development as a major cultural resource for Tunisia. (See pages 4 and 35). This minaret crowns the 17th-century Yussef Dey mosque.

Photo Jacques Perez, A.S.M., Tunis